Myanmar Red Cross Society

Household Baseline Survey for Enhancing Disaster Safety in Vulnerable Communities in Myanmar

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List of Acronyms and Abbreviations

ARC	American Red Cross
CBDRR	Community Based Disaster Risk Reduction
DRR	Disaster Risk Reduction
HFA	Hyogo Framework for Action
MAPDRR	Myanmar Action Plan for Disaster Risk Reduction
MRCS	Myanmar Red Cross Society
TOR	Terms of Reference
VDMC	Village Disaster Management Committees
VDSC	Village Development Support Committee

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Executive Summary

Myanmar is prone to several natural hazards including cyclones, earthquakes, floods, storm surges, droughts, tsunamis and fires. In 2008, cyclone Nargis claimed 138,373 lives and affected an estimated 2.4 million people. The American Red Cross (ARC), with financial assistance from OFDA, supporting the Myanmar Red Cross Society (MRCS) in implementing a new project entitled, "Enhancing Disaster Safety in Vulnerable Communities and Schools in Myanmar". The project aims to reduce the number of deaths, injuries and impact from disasters by increasing safety and resilience in Myanmar. This project will directly benefit 8,700 people (children, women, and other vulnerable groups including MRCS staff and volunteers) and indirectly benefit 214,000 individuals. The purpose of a baseline survey is to provide a measure of relevant project indicators and inform project's target setting.

Overall, there was a high response rate from the sampled population (214 of 230) with females making up two-thirds of the sample. About two-thirds of the sampled households have family members who fall into the vulnerable categories (elderly, person with disability, pregnant women, and children under five).

The most common disasters reported were cyclones, floods and strong winds, with the elderly and children named as the most vulnerable groups to disasters. The majority of respondents receive an early warning via radio (80%) followed by television and village head/leaders. The majority of sampled households believe that natural disasters are extremely serious in their effects to the respondents and their families. In preparations for a disaster, only 24% of the sampled households have an emergency grab bag ready.

Before a natural disaster, sampled households most frequently reported that they "did nothing", followed by less frequently reported stockpiling food and storing drinking water. The main reason behind the 113 respondents (of 213) who stated they did nothing was because they did not know or think a disaster would happen, and lesser number did not know what should be prepared. During a natural disaster, the most frequently reported action was that the sampled households "did nothing". After a natural disaster, over half of the respondents reported that they would fix their house, and less than a quarter would participate in clean-up operations and find food.

There is an overall low awareness of disaster preparedness knowledge as well as following practices. Despite being affected by Cyclone Nargis in 2008, a large number of respondents don't think a disaster would happen or are unaware of proper steps to take to enhance safety and preparedness.

Approximately half of the sampled households across all villages know of a community organization/institution that helps their community prepare for a disaster. Only 25% of sampled households were aware of a village disaster management plan, with less than half having played a role in preparing it. In first aid, about 75% of sampled households know of someone who can provide first aid within their community, and 39% of sampled households know of a first aid kit available in their

community. Almost all (208 of 214) households sampled do not have a first aid kit in the home. Very few (19 of 214) of the sampled households have participated in a community simulation exercise in preparation for a disaster. The most effective means of communication about natural disasters was reported to be via radio by over three-fourths of the sampled households.

Based on the findings of this survey, while a good majority of sampled households have knowledge on what to do before and during a natural disaster (especially floods, cyclones), respondents showed a lack of taking action regarding disaster practices. Several indicators are lagging in terms of attitudes and practices towards disaster preparedness.

Key recommendations:
> Further explorations should be conducted to determine the reasons behind lack of actions regarding attitudes and practices towards disasters. For example, use a barrier analysis to study, identify, and subsequently develop activities to address the barriers households face in changing their behaviors (attitudes and practices) in disaster preparedness.
> It is recommended that the project aim to address other vulnerabilities in programming such as targeting elderly individuals and households with children under five, as these vulnerable groups were more prominent in this survey.
> Furthermore, the project would benefit from the indicators of the baseline and should aim to set appropriate targets to measure its progress.

1. Introduction and Context

a. Project Overview

Myanmar is prone to several natural hazards including cyclones, earthquakes, floods, storm surges, droughts, tsunamis and fires. In 2008, cyclone Nargis claimed 138,373 lives and affected an estimated 2.4 million people. The education sector was also severely impacted damaging or destroying approximately 60% of the total number of schools in the affected areas. The devastation caused by cyclone Nargis was not caused by a technical failure in the early warning service–warnings were provided by the Myanmar Meteorological Service–but the failure of other elements of effective early warning systems especially communications networks and adequate preparedness initiatives enabling rapid response (World Disaster Report, 2009).

The American Red Cross (ARC), with financial assistance from OFDA, supporting the Myanmar Red Cross Society (MRCS) in implementing a new project entitled, "Enhancing Disaster Safety in Vulnerable Communities and Schools in Myanmar". The project aims to reduce the number of deaths, injuries and impact from disasters by increasing safety and resilience in Myanmar. Its strategic objectives are to build the internal capacity of the MRCS (at national and branch levels) to ensure the efficient delivery of disaster response and preparedness programs, as well as design and conduct disaster risk reduction education in targeted areas of Myanmar.

This project will directly benefit 8,700 people (children, women, and other vulnerable groups including MRCS staff and volunteers) and indirectly benefit 214,000 individuals. It is anticipated that MRCS targeted communities and schools will have increased capabilities to mitigate, prepare for, and respond to disasters.

a. About American Red Cross

The ARC is a volunteer-led organization that extends its humanitarian mission around the world through participation in the global Red Cross and Red Crescent network and through resource centers such as Global Disaster Preparedness Center. ARC has amassed over 125 years of experience in disaster management, responding to its first international disaster in 1892 to the Russian Famine. ARC and its Red Cross and Red Crescent partners are uniquely positioned to provide urgent humanitarian assistance to the world's hardest to reach and most vulnerable populations. During 2013, ARC's International Services Division, assisted over 5.6 million people in disaster response and recovery activities and carried out disaster preparedness and risk reduction in 32 countries.

b. About Myanmar Red Cross Society

As the leading and oldest humanitarian organization in Myanmar, the MRCS is committed to improving the health and well-being of vulnerable people. MRCS strives to maintain excellent partnerships with UN Agencies, non-governmental organizations, the press and other public information media. News coverage of Red Cross activities in the whole country is continually featured in the press,

radio and television news broadcasts. MRCS strive to be the leading humanitarian organization in Myanmar, acting with and for the most vulnerable at all times through its 330 branches. With a nationwide network of volunteers, the Myanmar Red Cross Society works to promote a more healthy and safe environment for the people in Myanmar, giving priority to most vulnerable communities and individuals. In times of distress and disaster, MRCS will assist those affected to help them return to their normal lives.

MRCS' Disaster Preparedness and Response initiatives focus on reducing deaths, injuries, and impacts from natural disasters. The provision of timely and effective relief assistance to disaster areas is achieved through improved organizational preparedness. Priorities for the organization include improving logistics, particularly warehouse capacity, establishing emergency response teams, strengthening communication and early warning systems, promoting coordination and collaboration with partners and local authorities, among other priorities. In terms of DRR, MRCS's programmatic approach employs a successful local-level model that reduces deaths, injuries, and impact from disasters. The lives of targeted vulnerable communities are improved through increased community participation in risk reduction activities.

c. American Red Cross' work in Myanmar

The ARC is currently supporting MRCS in areas of disaster risk reduction and organizational development. A history of collaboration between ARC and MRCS exists since 1992 and has expanded in the last two years including the signing of a Memorandum of Cooperation (MOC) in September 2013. An American Red Cross Disaster Risk Reduction Delegate is based in Yangon along with administrative, financial and programmatic local staff. ARC also has a regional office in Bangkok with a full administrative, programmatic and financial support staff including a Regional Quality and Learning Delegate, a Regional Disaster Risk Reduction Advisor and a Regional Representative.

2. Baseline Survey

a. Survey Objectives and Approach

The purpose of a baseline survey is to provide a measure of relevant project indicators and inform project's target setting. The baseline gathered a range of information on the relevant disaster preparedness and risk reduction activities as well as knowledge of households and communities in project locations. It also provides benchmark values against which the project performance will be measured, especially at the end of the project through an end line survey. MRCS project implementation team will also use baseline data and its analysis for informing the design of project activities.

The main objectives of the baseline survey are:
1. To have quantitative measure of key project indicators for assessing progress at the end of the project.
2. To measure knowledge, attitude and practices in order to inform project interventions.

b. Survey Locations

The sampling frame included all five project villages from Dedaye Township. This area is highly disaster prone and was affected by cyclone Nargis in 2008. This delta area is not only exposed to hydrological hazards (cyclone, floods, surges and tornados) but also prone to seismic hazards like earthquakes and tsunamis. Other prevailing factors are pervasive such as poverty, poor accessibility of basic services, environmental degradation, and vulnerability to changing climate.   Despite the recovery initiatives in the delta, it continues to remain one of the vulnerable areas in Myanmar. A profile of each of the villages is enclosed in Appendix 1.

A thorough two-step selection process was conducted by MRCS with ARC support in order to select project communities (five villages).   [See Appendix 2 for community selection process information]. The resulting project sites selected for this intervention are:

1. Ta Mar Ta kaw
2. Nyaung Lein kone Taw Ka Ni
3. Yae Twin Kone Than Deik
4. Don Yan Thaung Tan
5. Ah Kal Chaung Wa

c. Sample size and calculations

An unadjusted sample size was estimated at 134 for the parameter presented in Table 1. A design effect of 1.5 was applied, as well as a nonresponse adjustment of 15% with population of approximately 7,000. The adjusted sample size was 230 households. The sample size was calculated to control for precision at the population level, not at the community (village) level.

Table 1: Sample size calculation

Key indicator	None chosen
Significance level	95%
Power	80%
Estimated baseline value of key indicator	45%
Expected future value of key indicator at endline	60%
One or Two-Tailed Test?	One

The sample size was distributed proportionately by population in the project villages. The sample size from each village is indicated below in Table 2.

Table 2: Sample size per village

Sr.No.	Name of village	Households	Sample size
1	Ta Mar Ta kaw	325	43
2	Nyaung Lein kone Taw Ka Ni	172	23
3	Yae Twin Kone Than Deik	276	37
4	Don Yan Thaung Tan	535	71
5	Ah Kal Chaung Wa	420	56
	Total	1728	230

d. Sampling Method

For each selected village, systematic random sampling without replacement was applied for selection of households into the survey. Interviewers used village maps to identify the starting point in each village. Each team was given with a sheet with a random start point and they successively selected (with interval 7) the house number to avoid any error in the field. Several scenarios were presented including a mock exercise during baseline-training to master this skill. To ensure equal distribution of gender among respondents, interviewers were given instructions for selecting a respondent of a given gender in the selected household (Interview male respondent if the selected HH number is even and interview a female respondent if the selected HH number is odd). Non-response rules were set up to address ambiguities in selection of respondent and household (See Appendix 3 for detailed sampling instructions).

e. Research tools

To meet survey objectives and adhere to quality standards in survey implementation, a variety of research tools were designed. The following research tools were designed (see Appendix 4-6):

1) Survey questionnaire
2) Respondent tracking sheet
3) Field supervision sheet

A respondent tracking sheet was developed as part of basic survey management, but specifically to: 1) monitor the data collection process (adherence to sampling method), and 2) to record reasons of non-response and follow up plan.

A survey questionnaire for households was designed based on the project monitoring and evaluation plan, MRCS CBDRR Manual examples, Oxfam's survey, as well as questionnaires used within American Red Cross for similar CBDRR projects. The MRCS CBDRR manual specifically looks at identifying local

hazard experiences, perceptions of natural hazards, and current levels of natural disaster preparedness and response and the questionnaire aims to collect this information.

The survey questionnaire specifically captures basic demographic information, knowledge of disasters, attitudes towards disasters, practices related to disasters, disaster preparedness activities, as well as appropriate communication channels related to disasters.

A field supervision sheet was developed as part of basic survey management to identify and to give feedback to interviewers and survey managers on the overall quality of the event, and identify promising practices and challenges of surveys in Myanmar for future reference, especially as a tool for MRCS.

f. Pilots

A pilot survey was conducted as part of the training in a community outside of the project intervention area, with approximately 30 households interviewed (equal representation from both male and female respondents). No major issues were encountered during the pilot. Based on interviewer feedback, options were added for few questions in the questionnaire to address additional responses that may come up in the survey.

g. Trainings

Two trainings, one for interviewer and one for supervisors, were conducted to ensure adequate preparation and support for the survey (see Appendix 7-8).

All the interviewers and supervisors recruited for the survey received an intensive three-day training by a consultant from the Focus Point Research Services Company. Ten interviewers consisted of five MRCS volunteers and five community mobilizers. Six supervisors consisted of MRCS staff including two field officers, one program coordinator, one township branch leader, and two consultants. The training was conducted in local Myanmar language. The training was organized from February 25-27, 2014 at Kan Chaung Monastery, Dedaye including one field pilot and debriefing session. MRCS and ARC staff actively participated in the training. The training of interviewers comprised of both classroom and field practice. The first day of training covered basic survey methodology, "do's and don'ts" during surveys, and a review of questionnaires in the classroom setting. The second day, the interviewers and the supervisors were taken to the field (Ta Nyin Kone Village) and were asked to complete at least three interviews with households in the morning. Following this pilot in a non-project village, a debrief session was held to discuss and resolve the problems encountered with the questionnaires in the field. On the third day, interviewers were trained on the sampling of households, and also conducted a mock survey. The supervisors were given separate and specific training to carry out their respective work. The training helped supervisors develop skills on field supervision, carrying out spot checks and back checks[1],

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[1] Spot checks are quality checks wherein the supervisor observes when the interview is happening and provides feedback to interviewer soon after its completion. In case there is an important quality gap, the supervisor intervenes during the interview. Back checks are for quality verification wherein the supervisor takes random filled-up questionnaire and visits the household again to check data authenticity and quality.

accompanying the interviewers, field editing for consistency checks, and managing the monitoring sheets.

h. Data Collection process

Data collection occurred over three days, from February 28 to March 2, 2014. Five teams (two interviewers per team) were responsible for the data collection across the five villages, divided up based upon the sample size for each village (see Appendix 9-10). The following steps were completed during field work:

Step 1: Set up the team and approach the field
Step 2: Conduct transect walk. Each supervisor and/or team conducted a transect walk to become familiar with the geography of the village and to mark the boundary for team members
Step 3: Data collection
Step 4: Quality control

In general, supervisors were responsible for developing a thorough understanding of the survey tools, guiding interviewers on sampling as well as randomly checking (through spot and back checks) and taking corrective actions when needed, observing data collection and interviews, checking the filled-out questionnaires for internal consistency, and checking the respondent tracking sheet, as well as informing ARC and MRCS about observations and/or questions in the field.

i. Data entry and analysis

To manage the data entry process of over 200 paper-based questionnaires, a local consultant – the same consultant hired for training - was recruited by MRCS (see Appendix 11). Data entry was carried out in CS Pro 5 and analysis was done in SPSS 21 and Stata 12 (see Appendix 12).

All the completed questionnaires were thoroughly reviewed by the supervisor in the field for completeness and consistency. Other responses were coded before data entry. Appropriate range and checks were built in the data entry package to avoid data entry error (out of range value). No further data cleaning was undertaken during data entry.

j. Limitations

Due to the nature of the project and community selection process, a basic yet strong sampling design was employed at the household level (one-stage sampling was employed) with systematic random sampling at every 7th household. No weights are required as the sample was self-weighted (i.e. proportionate to the number of households in the village). There is minimal weight at the household level based on the number of eligible respondents (male/female adults), and would not impact the analysis and interpretation.

3. Analysis and Results

a. Response rate

The total number of respondents was 214 out of the estimated sample size of 230 (see Table 3). Per village, the non-response rate ranged from 0-14%, while the overall non-response rate is approximately 7%. As the sample was designed to be self-weighted, taking into account female and male representation in the respondents, as well as the limited number of respondent required no weights were applied prior to analysis.

Table 3: Response rate per village

Sr. No.	Name of village	Households	Targeted sample size	Surveys completed
1	Ta Mar Ta kaw	325	43	37
2	Nyaung Lein kone Taw Ka Ni	172	23	23
3	Yae Twin Kone Than Deik	276	37	37
4	Don Yan Thaung Tan	535	71	65
5	Ah Kal Chaung Wa	420	56	52
	Total	**1728**	**230**	**214**

b. Sample distribution and demographics

The distribution of respondents (n=214) across the five selected villages in which MRCS and ARC will work in is shown in Figure 1 below.
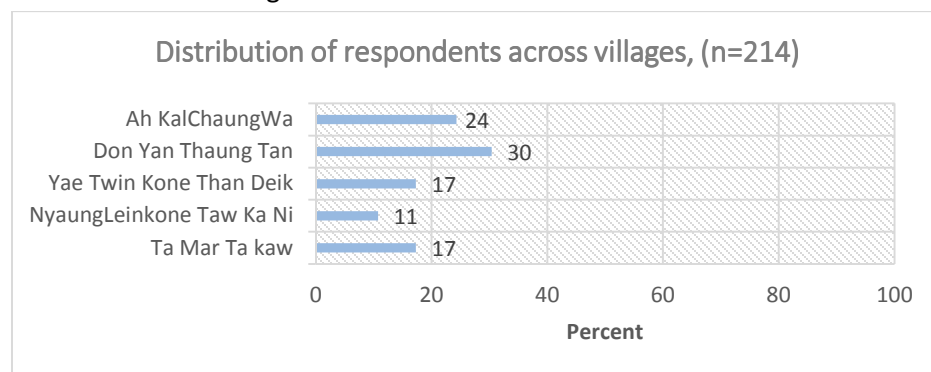
Figure 1: Distribution of respondents across villages

With regards to gender distribution within the sample, an attempt was made to balance gender across respondents. As shown in Figure 2 below, females comprised approximately 65% of the sample, while males were about 35% of respondents (n=214).
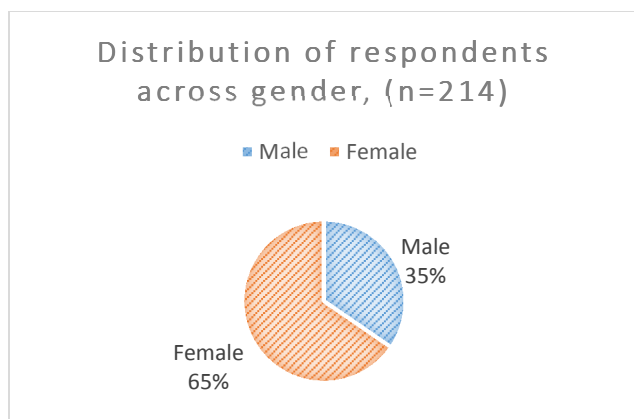
Figure 2: Distribution of respondents across gender

The mean age of respondents is 41.7 years, ranging from 18 - 79 years of age. Respondents predominantly fell into three main age groups, with roughly 29% between 25-35 years and 29% between 36-45 years of age, and 21% of the sample falling within the 46-55 age group (see Figure 3 below).
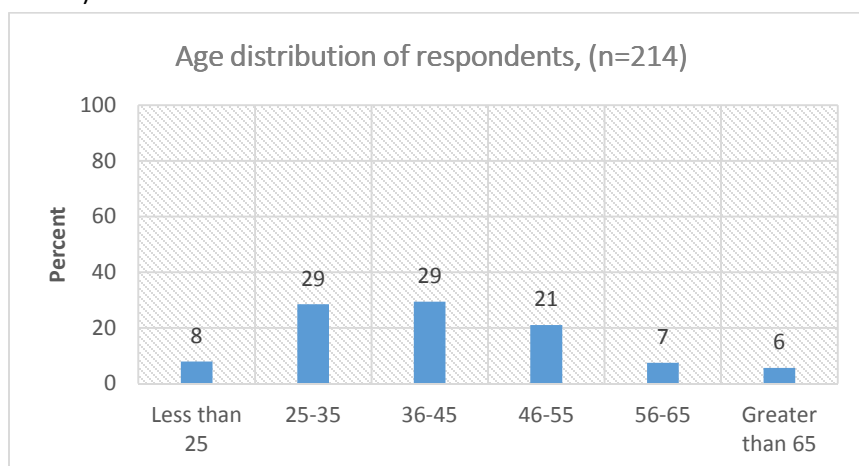
Figure 3: Age distribution of respondents

The age distribution of respondents by gender did not show any differences in the majority of respondents, with only slight variation between genders above 56 years of age (Figure 4).
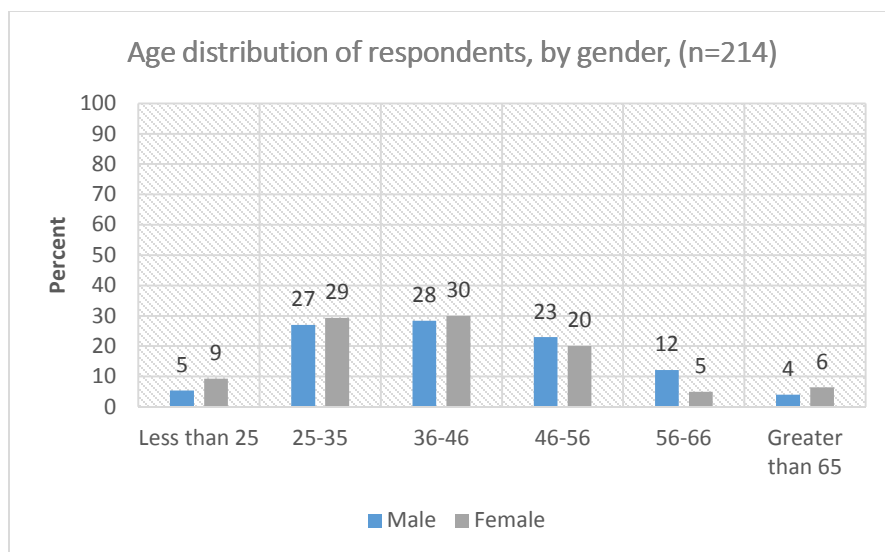
Figure 4: Age distribution of respondents, by gender

The majority of respondents in the sample were either the head of the household (35%) or the spouse of the head of household (54%)[2] (n=214) (see Figure 5).
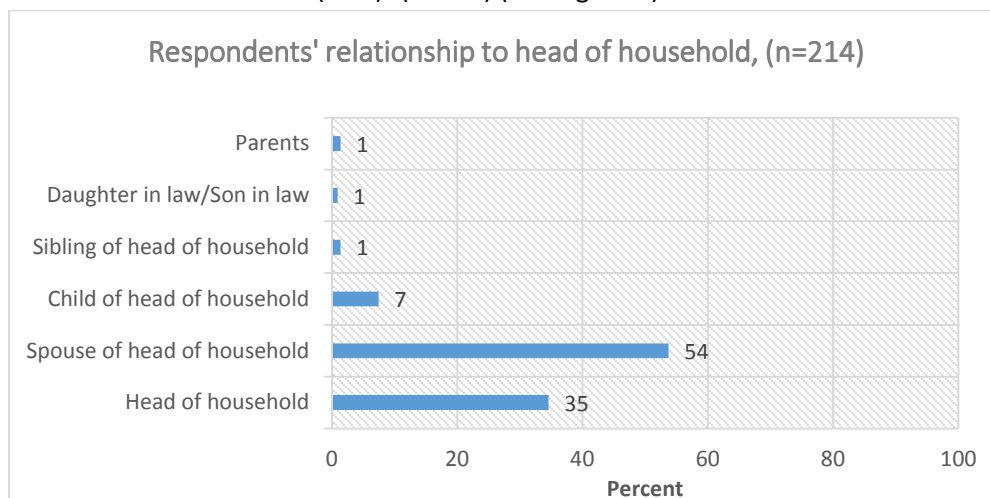
Figure 5: Respondents' relationship to head of household

The mean number of persons living in a household is about 4.5 (standard deviation=1.8), ranging from one to twelve persons per household (Figure 6).

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[2] In Myanmar, generally the eldest or earning male-member of the family is considered by the family members as the head of the household.
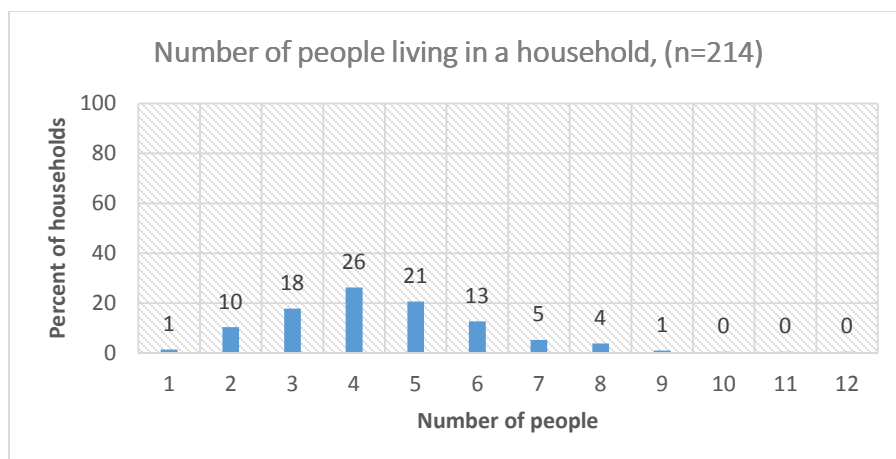
Figure 6: Number of people living in a household

When asked if any family member is a) over 60 years old, b) person with disability, c) pregnant, or d) under 5-years old, about a third of respondents (37%) reported a family member under 5 years old, and about 20% of respondents reported a family member over age 60; the remaining categories were less frequent across the sample (see Figure 7).
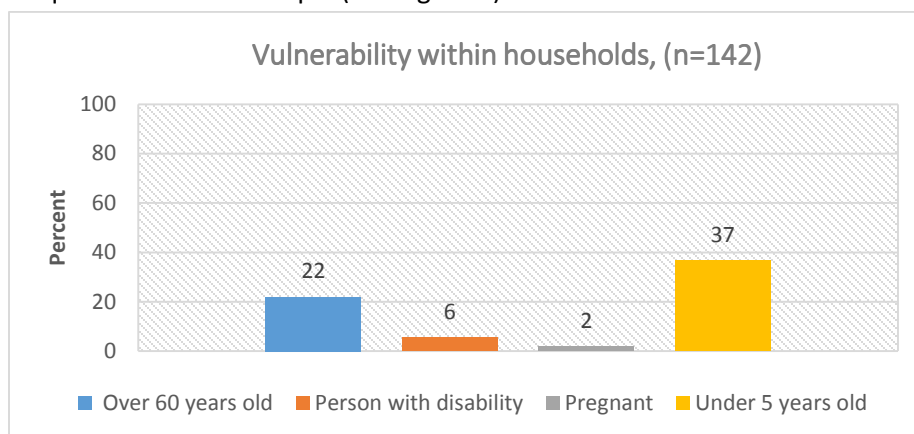
Figure 7: Vulnerability within households

Ethnicity and Religion

Almost all respondents in the sample associate themselves with the Burma ethnic group, with only one household belonging to the Chin group. With regards to religion, all respondents (n=214) in the sample identified themselves as Buddhist.

Education

Approximately 36% of respondents reported primary school as the highest level of education attained; another 28% have completed middle school, and another 22% completed monastery school, with 10% of respondents who reported completion of high school, undergraduate, and graduate education (see Figure 8). Highest education level attained differs widely by village, with primary level studies as the most common level attained as a percentage of all respondents within Ah Kal Chaung Wa (54%) village. Ta Mar Ta kaw village has a higher proportion of respondents who completed primary education (38%),

followed by about a third (32%) who completed Monastery education. Nyaung Lein Kone Ta ka has a large percentage of respondents who report completing Monastery education (39%), with about a third (30%) who completed primary education. Of the five villages, Yae Twin Kone Than De (32%) and Don Yan Thaung Tan (42%) have a higher percentage of respondents who report completion of middle school (see Figure 9).
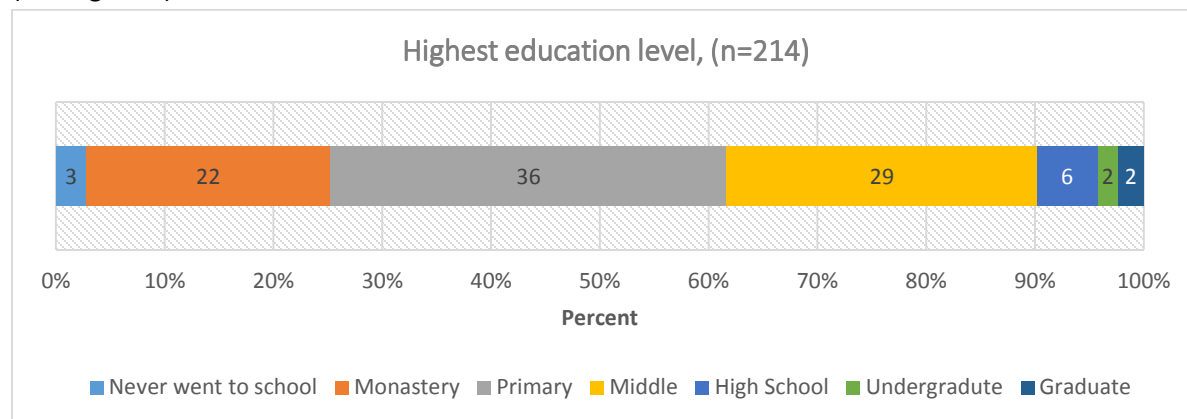
Figure 8: Highest education level
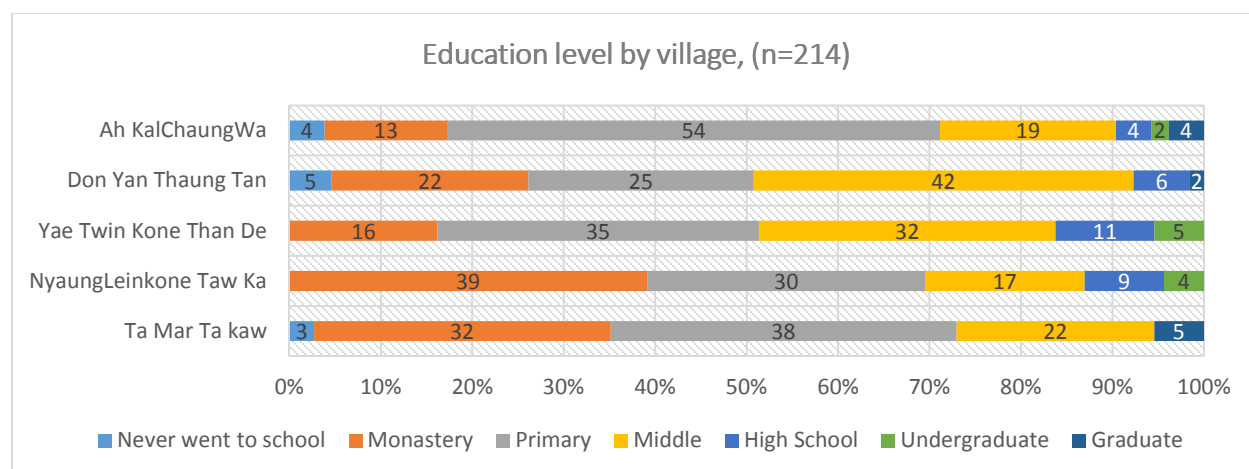
Figure 9: Highest education level by village

Occupation

The majority of respondents report casual work (such as fishing), as their primary occupation, followed by owning a Paddy, then Fishing, and small business vendors (see Figure 10).
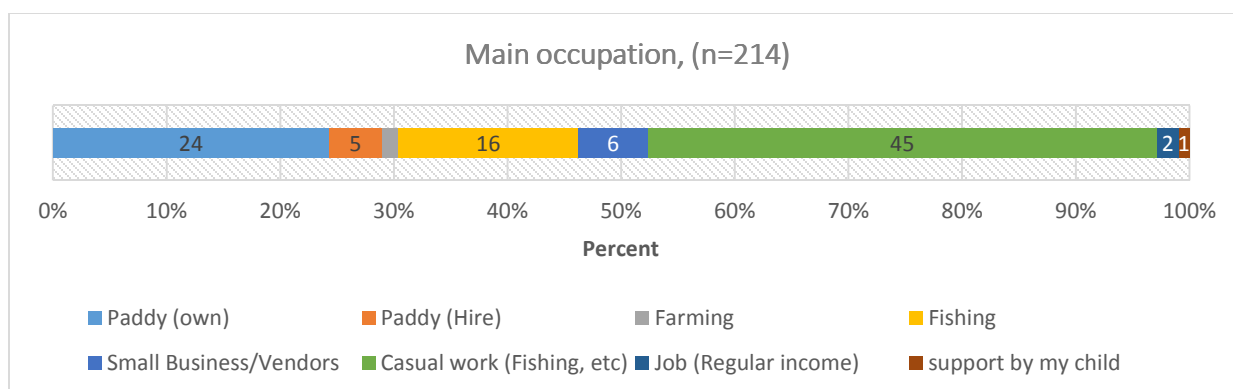
Figure 10: Main occupation

Housing

The most common type of housing across the sampled households were reported bamboo hut or variation of a bamboo hut with wooden floor (approximately 70%), with less common types such as wooden houses (approximately 20%) (See Table 4).

Table 4: Types of housing

Type of housing	Description	Percentage of sample (n=214)
Bamboo Hut	Bamboo pole, bamboo floor, bamboo mat and thatch roof	39.7%
Bamboo Hut w/wooden floor	Timber pole and floor, bamboo mat and thatch roof	32.7%
Wooden House	1-story	16.4%
Wooden House	2-story	6.1%
Brick Nogging Building	Brick infill in a primarily wooden frame	3.3%
Concrete Building	Primarily reinforced concrete building with wall partitions of brick or other material	0.9%
Mixed Material Building	Steel roof, timber wall, concrete floor	0.9%

When comparing the type of housing across villages, Bamboo Huts are the most common type of housing in Ah KalChaungWa, Don Yan Thaung Tan, and Yae Twin Kone Than Deik; and; whereas Bamboo Huts with wooden floors are more common in Nyaung Leinkone Taw Ka Ni and Ta Mar Ta kaw (see Figure 11).
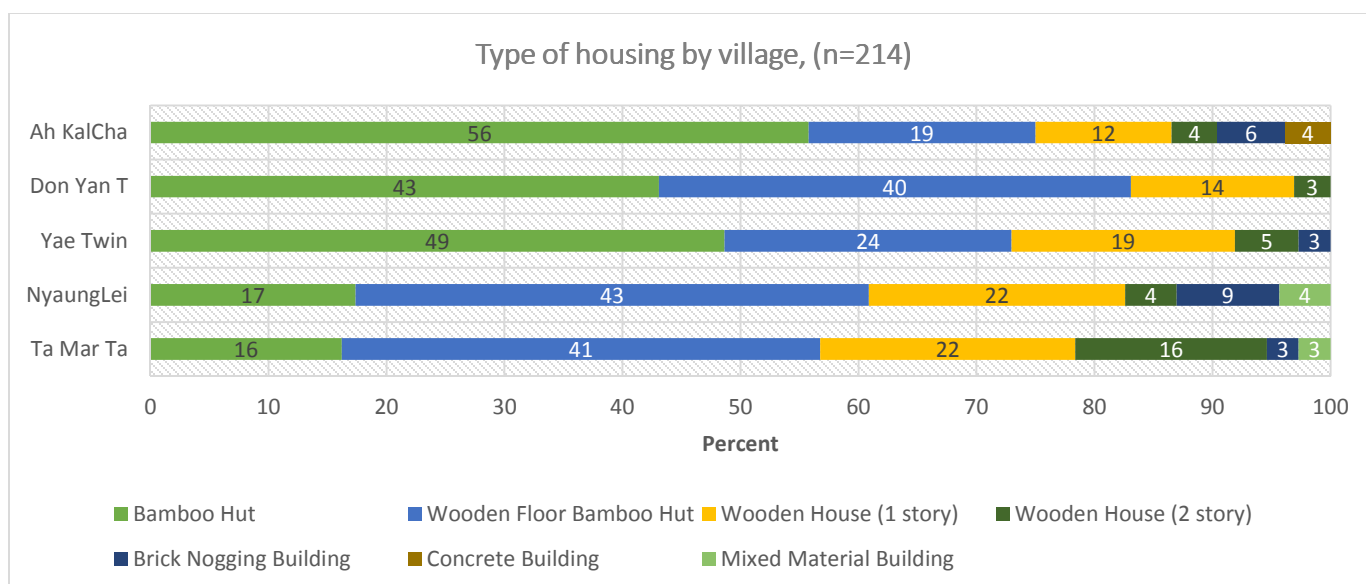
Figure 11: Type of housing by village

c. Knowledge and attitudes about disasters

Household knowledge of disasters and perceptions of vulnerability

When asked what the most common disasters in the last ten years, the most commonly reported disaster was a cyclone, followed by floods, and strong winds (see Table 5 and Figure 12). The most vulnerable groups as identified by the respondents were most frequently reported to be the elderly, children, and persons with disabilities (see Figure 13).

Table 5: Most common disaster experienced in community in the past 10 years as reported by respondents, (n=214) multiple-response question

Most common disaster reported in past 10 years	Frequency	Percent of responses
Cyclone	196	50.13
Floods	98	25.06
Strong wind	59	15.09
Fires	13	3.32
Tsunami	6	1.53
Health epidemic	5	1.28
Tornado	5	1.28
Earthquakes	4	1.02
Don't know	3	0.77
Other	1	0.26
Drought	1	0.26
Landslide	0	0
There are no disasters	0	0
Total	391	100

Most common disasters in the last ten years reported by respondents by village, (n=214)

Disaster	
Cyclone	
Floods	
Strong wind	
Fires	
Tsunami	
Health epidemic	
Tornado	
Earthquakes	
Don't know	
Other_specify	
Drought	
Landslide	
There are no disasters	

Frequency axis: 0, 50, 100, 150, 200, 250

Legend: ■ Ta Mar Ta kaw ■ NyaungLeinkone Taw Ka ■ Yae Twin Kone Than De ■ Don Yan Thaung Tan ■ Ah KalChaungWa

Figure 12: Most common disaster experienced in community in the past 10 years as reported by respondents, (n=214) multiple-response question

Most vulnerable groups to disasters, (n=214)

Group	Percent of responses
Elderly	30
Children	29
Person with disability	15
Poor households	8
Pregnant women	6
Fishermen	5
Other	5
Don't know	2
Those who cannot swim	1

Percent of responses axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100
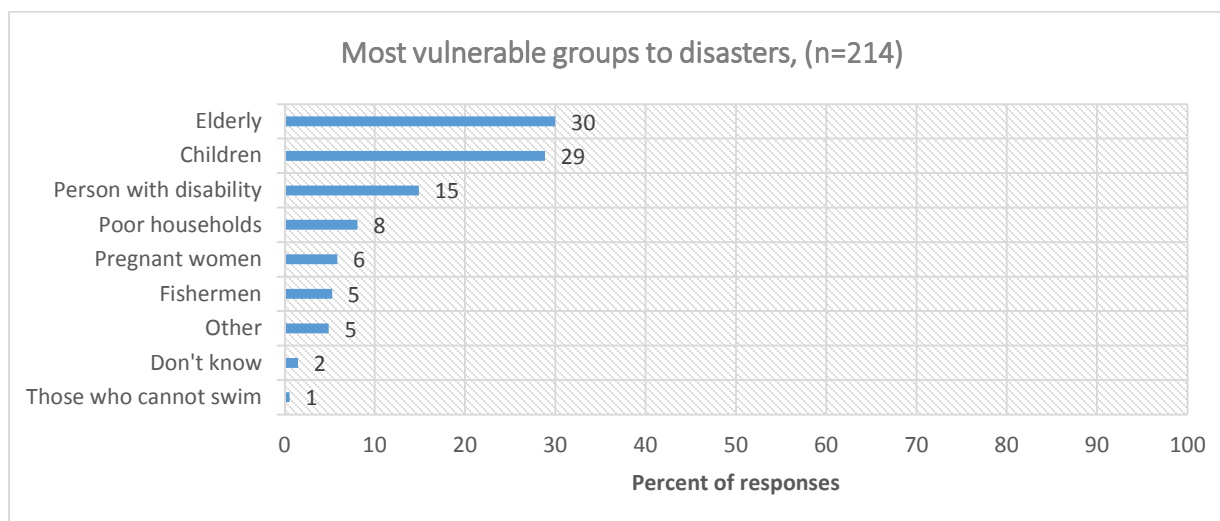
Figure 13: Most vulnerable groups to disasters

Early warning systems

Approximately 71% of respondents report receiving an early warning before a disaster strikes. When comparing by village, those who report receiving an early warning ranges by village from 58% to 89% of respondents (see Figure 14). Of the 151 respondents who reported receiving an early warning, 121 (80%) mentioned receiving the warning via radio, followed by 40 respondents receiving a warning via television, followed by less frequently mentioned methods (see Figure 15).

Baseline Survey for Enhancing Disaster Safety in Vulnerable Communities in Myanmar
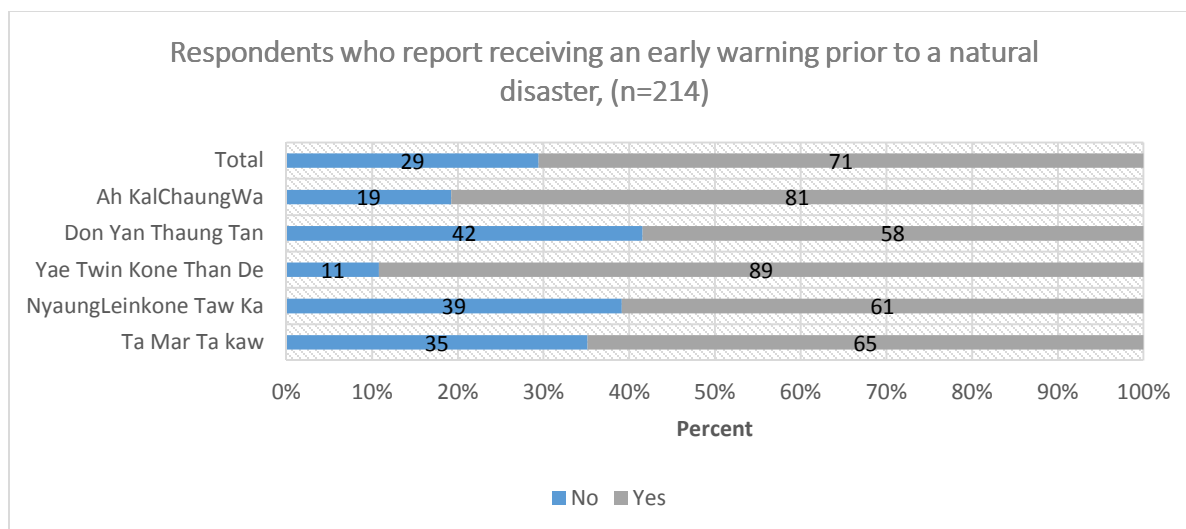
Figure 14: Respondents who report receiving an early warning prior to a natural disaster
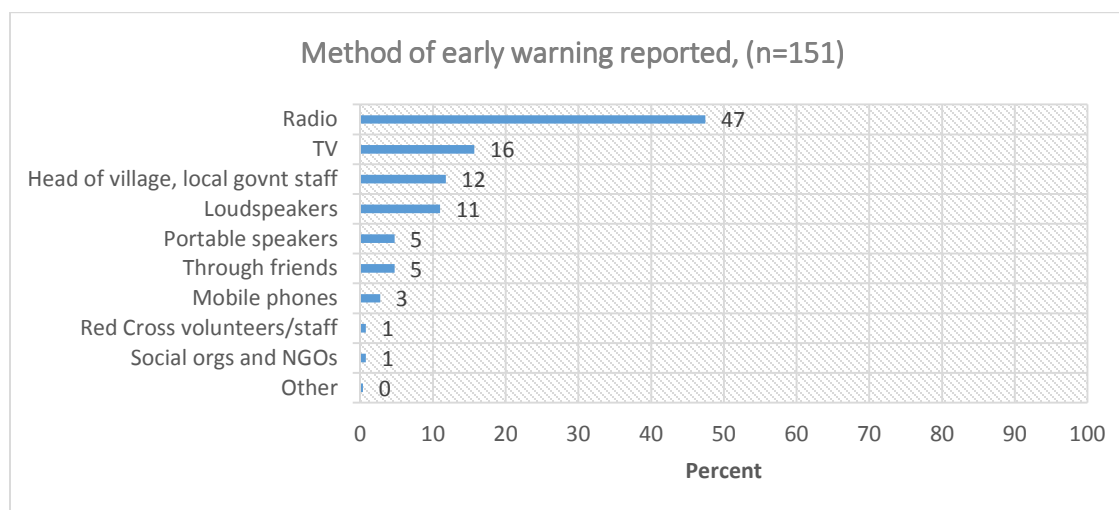
Figure 15: Method of early warning reported

Attitudes towards disasters

The majority of respondents (80%) reported thinking that natural disasters have an extremely serious effect on themselves and their family (see Figure 16).
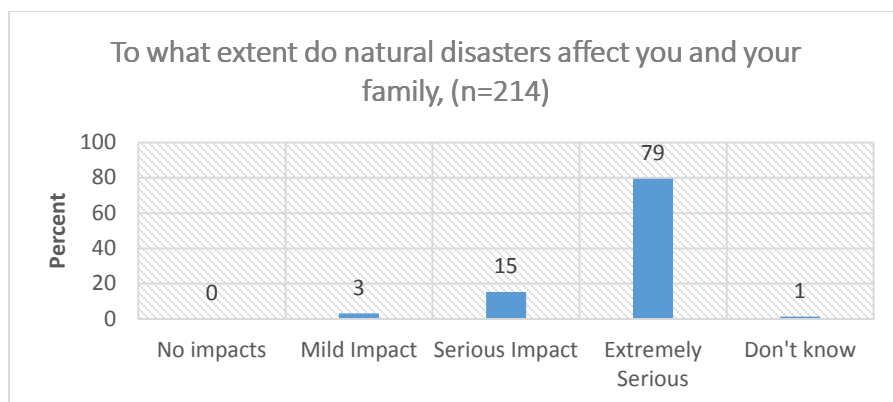
Figure 16: Extent to which natural disasters affect respondents and respondents' family

When asked what respondents worry most about when it comes to natural disasters, about half of the respondents worry about wasting money necessary to re-establish their lives, another third worry about a variety of other issues, and another third worry about water pollution, with less frequently reported worries across the other items (see Figure 17). The most frequently mentioned concern is primarily related to livelihoods, followed by environmental concerns, and life. Of those who reported "other" worries (n=74) about natural disasters, the two major concerns that that were revealed are about life and loss of family (see Figure 18).
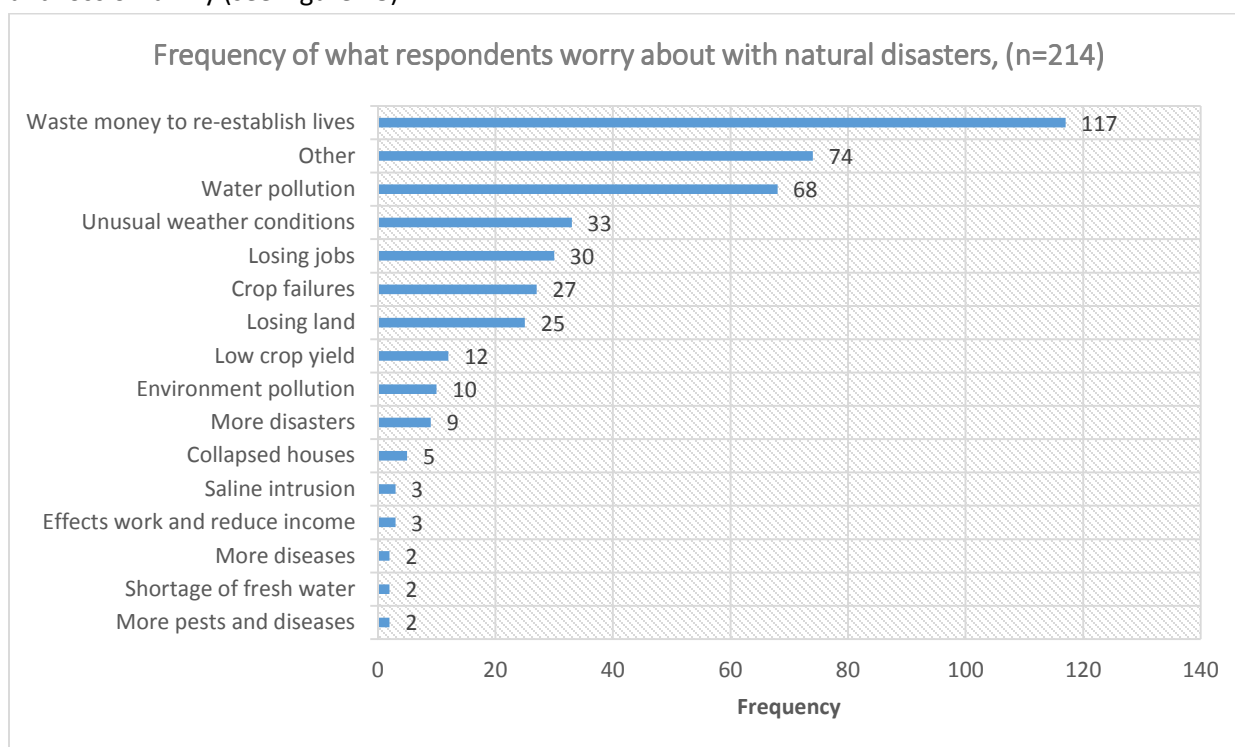
Figure 17: Frequency of worries about natural disasters
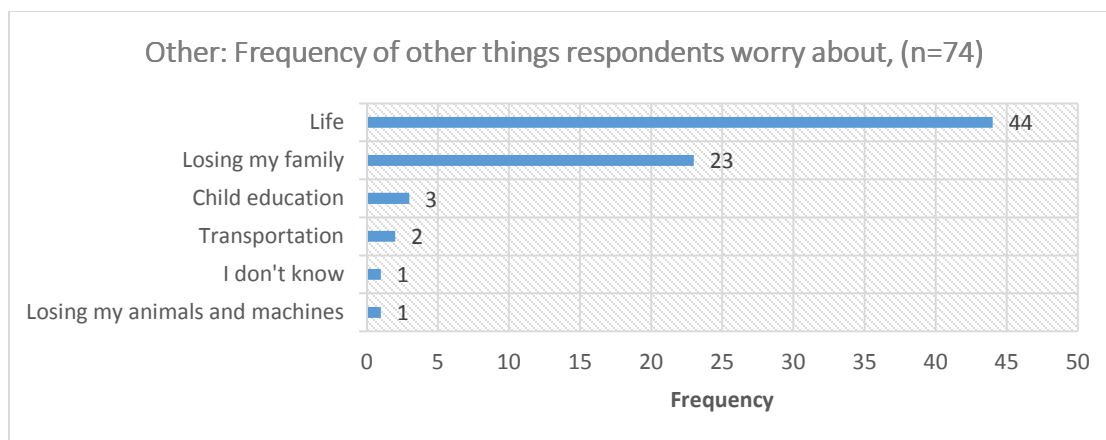
Figure 18: Frequency of other worries with natural disasters

d. Disaster preparedness actions

Disaster preparedness activities

When asked what respondents do to prepare before a natural disaster, the most frequently mentioned actions were to do nothing (n=113), followed by less frequent actions such as stockpiling food, storing drinking water and listening to news (see Figure 19).
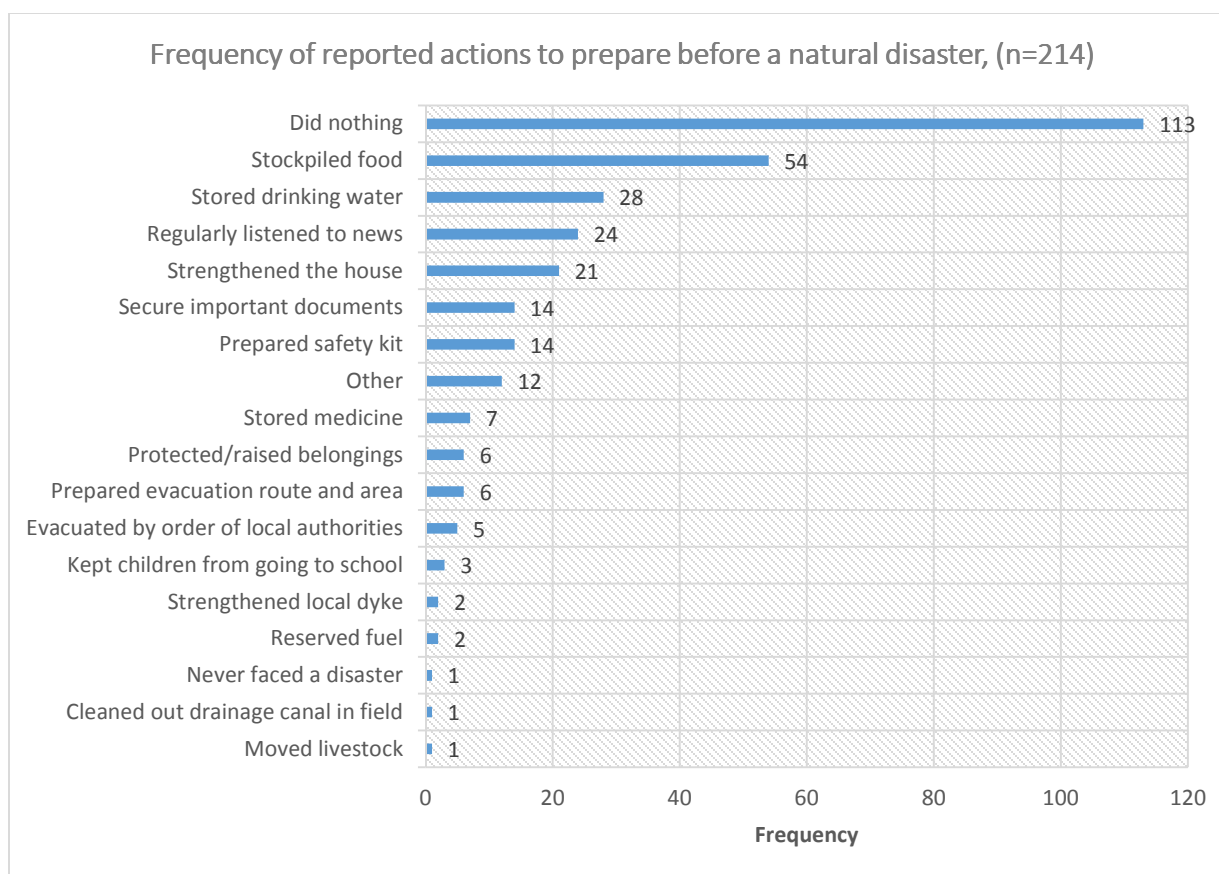
Figure 19: Frequency of reported action to prepare before a natural disaster

Of those respondents who did nothing (n=113), 79 did not know or think the disaster would happen, and another large group (35 respondents) did not know what actions to take to prepare (see Figure 20).

Reasons why respondents did not prepare for natural disaster, (n=113)

Reason	Frequency
Didn't know or think it would happen	79
Did not know what should be prepared	35
Felt that there was no way of preparing	3
Did not have the time and/or money	2
Other	1
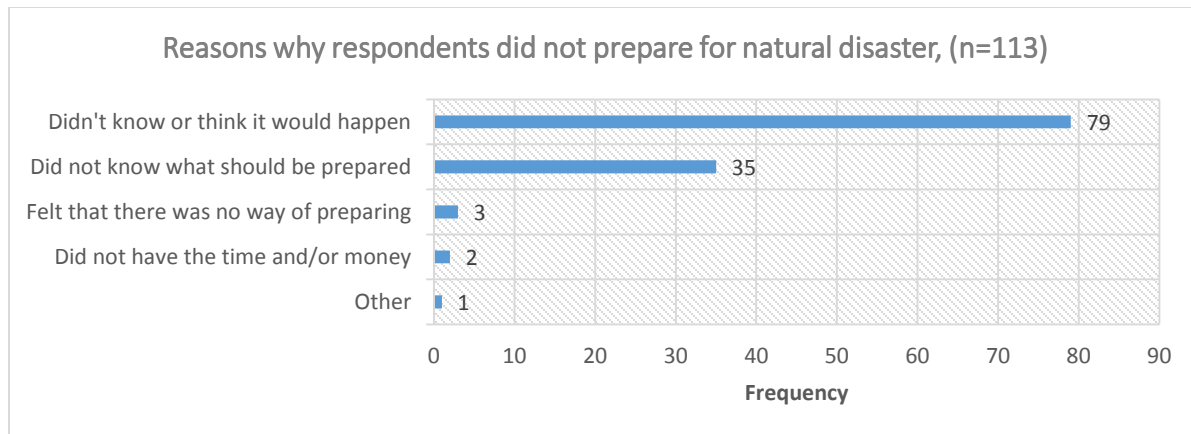
Figure 20: Reasons why respondents do not prepare for natural disaster

When respondents were asked about actions they would take during a natural disaster, about half of respondents stated that they would do nothing, with less than a quarter of respondents stating other options such as running to a safe place and strengthening their house (see Figure 21). Of those who stated "other" options (n=49), 35 of them would run to a safe place (see Figure 22).

Frequency of actions reported during a natural disaster, (n=213)

Action	Percent
Participated in rescue work when needed	2
Regularly listened to news on disaster situation	3
Did not allow children to play near risk areas	6
Helped vulnerable people	6
Strengthened the house	16
Other	21
Did nothing	47
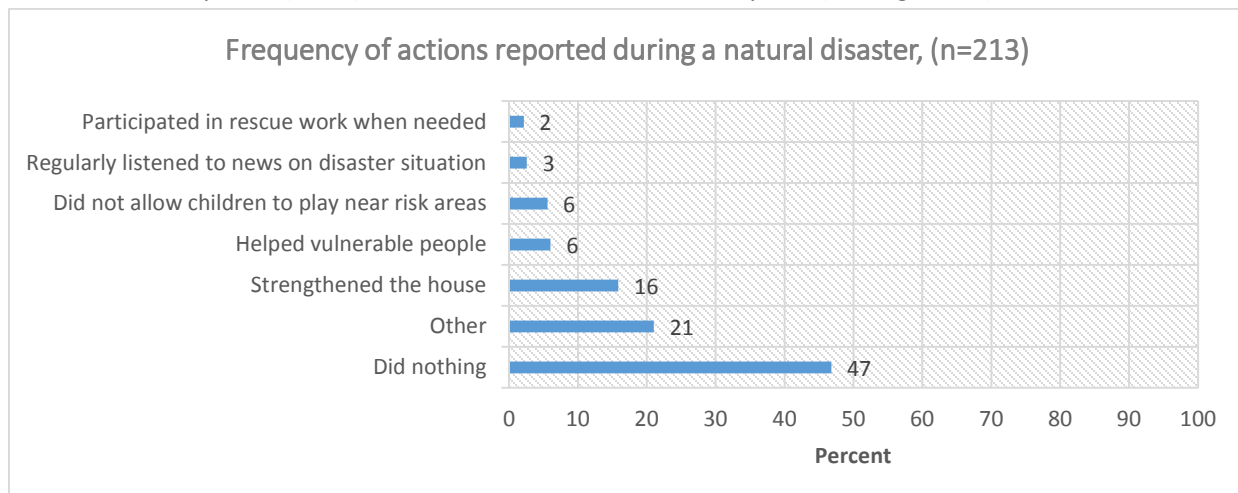
Figure 21: Actions taken during a natural disaster

Frequency of other actions during a natural disasters (n=49)

Action	Frequency
Went to a tree	1
Held a life jacket	2
Stayed in a big building	3
Saved food	3
Live together family	5
Ran to safe place	35
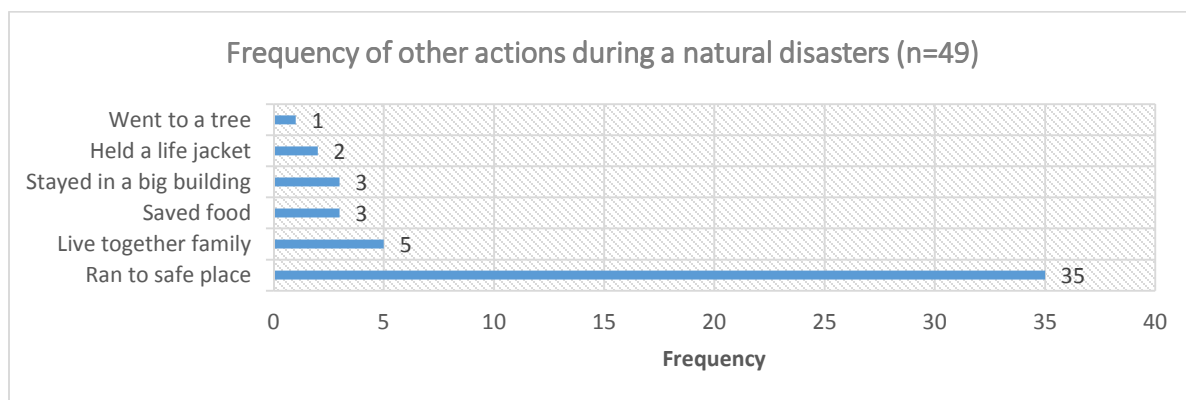
Figure 22: Other actions taken during a natural disaster

When respondents were asked what they would do after a natural disaster, the majority responded that they would fix their house, followed by a large response for other options such as finding food, participating in clean-up operations, and participate in relief work (see Figures 23 and 24).

Frequency of reported actions respondents will take after a natural disaster

Action	Frequency
Fix the house	139
Other (specify)	57
Participate in cleanup operations	43
Participate in relief work	27
Do nothing	26
Participate in village mtgs. on disaster preparedness and response	4
Report to local government about the effects of disaster	2
Cleaning water sources	1
Proactively prevent diseases	1

Figure 23: Frequency of reported actions respondents will take after a natural disaster

Frequency of other reported actions after a natural disaster, (n=57)

Action	Frequency
Finding food	38
Reestablishing life	13
Finding lost people	5
Repairing my shop	1

Figure 24: Other actions after a natural disaster

If the respondents' homes were located in a river flood area, many respondents stated that they would re-elevate their house, prepare life jackets/boats, and evacuate to safe shelter (see Figure 25). Other options mentioned included going ashore.

Frequency of actions reported if respondents' house is located in river flood area? (n=214)

Action	Frequency
Don't know	15
Other	27
Moving to relative house	40
Putting belongings to upper level (shelf)	50
Evacuating to the community shelter when the water level is rising	51
Prepare life jacket/boat	54
Re-elevate house on stilt	56
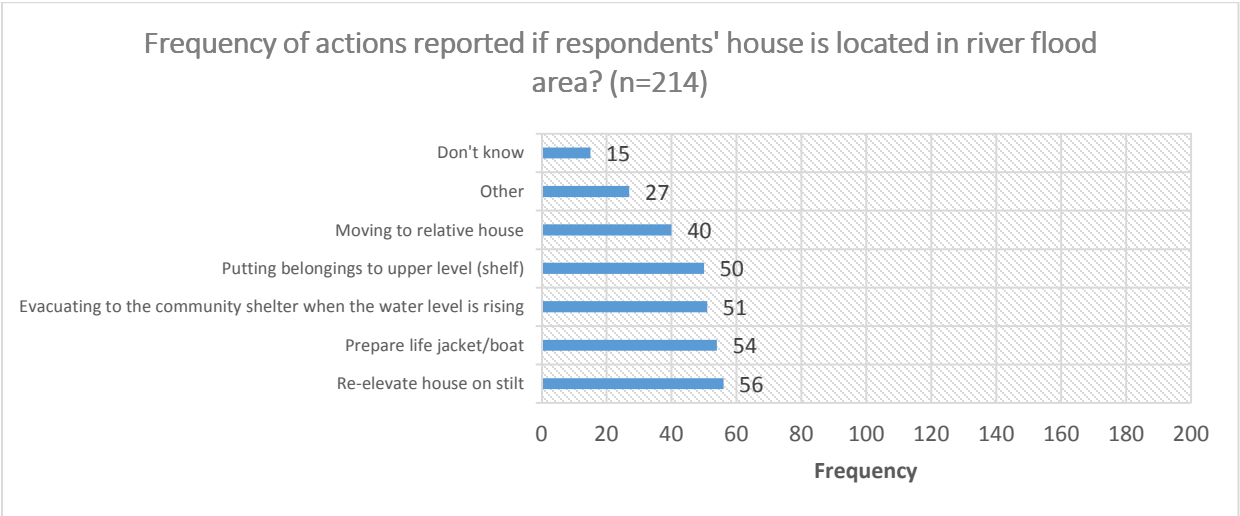
Figure 25: Frequency of actions reported if respondents' house is located in a river/flood area

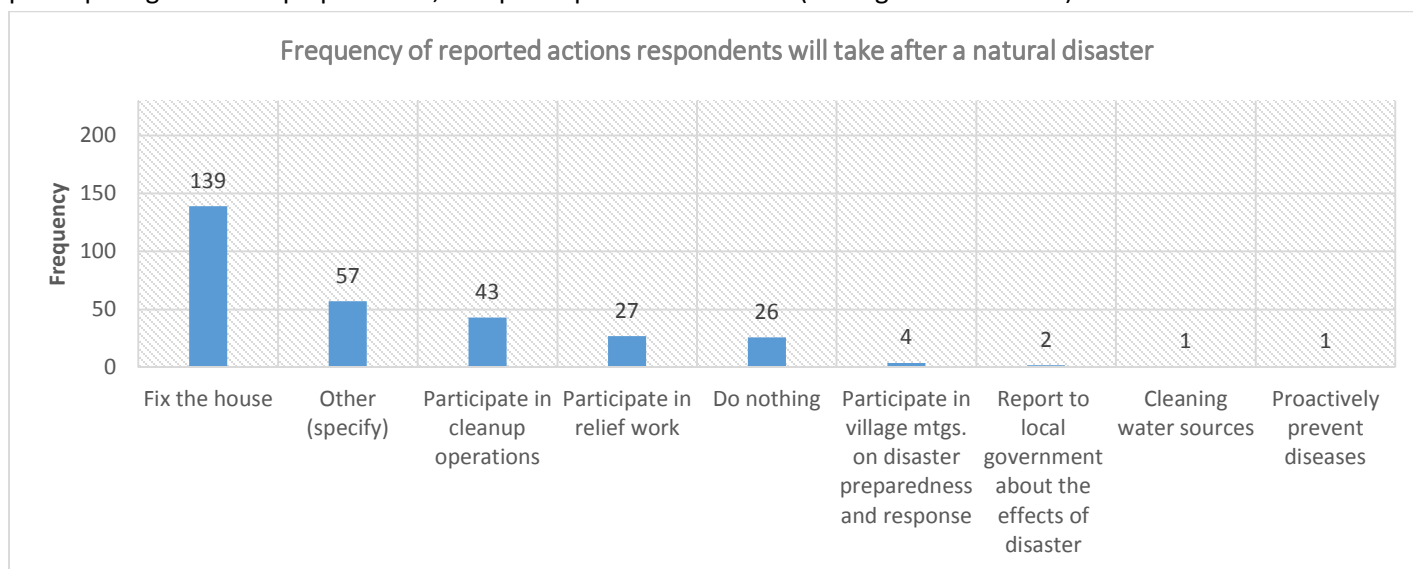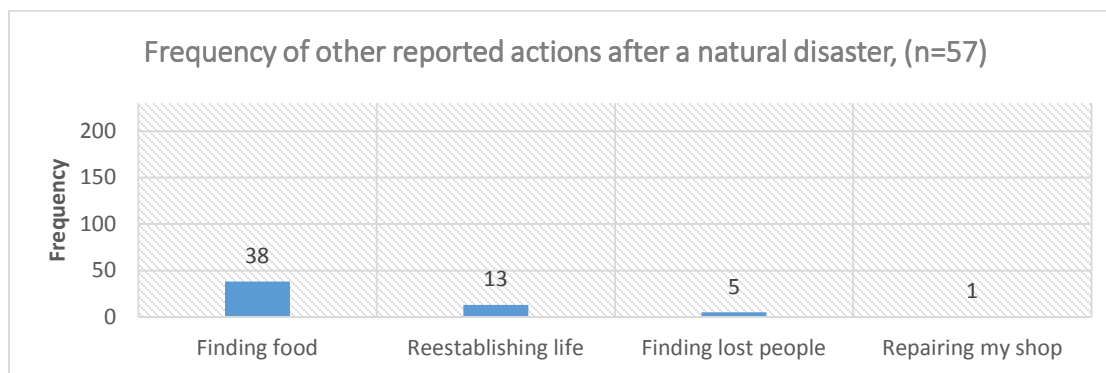If the respondents' home was located in a cyclone prone area, the most common responses were that they would move to a relative's house, and evacuate to a community shelter after an early warning (see Figure 26).

Frequency of reported actions if respondents' house is located in an area to be affected by a cyclone? (n=214)

Action	Frequency
Listening to the radio to get latest weather update	1
Don't know	14
Other	18
Inspect house and yard for heavy items and secure them	22
Stockpiling food items, water and securing important document	40
Evacuating to the community shelter after receiving the early…	77
Moving to a relative's house	88

Figure 26: Frequency of reported actions if respondents' house is located in a cyclone area

Regarding earthquakes, the majority of respondents stated that they would run out of the building if an earthquake were to occur (see Figure 27).
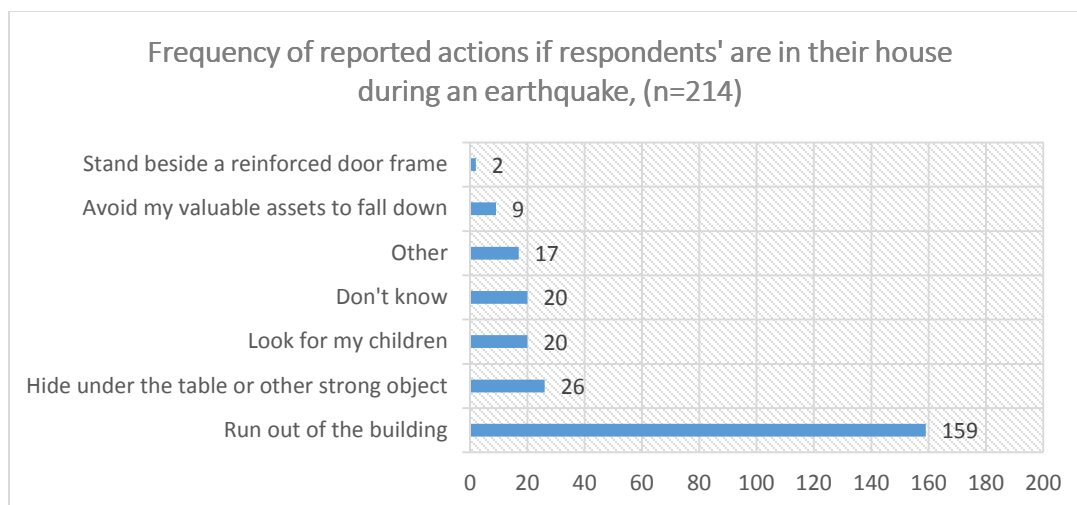
Figure 27: What will respondents do if an earthquake occurs
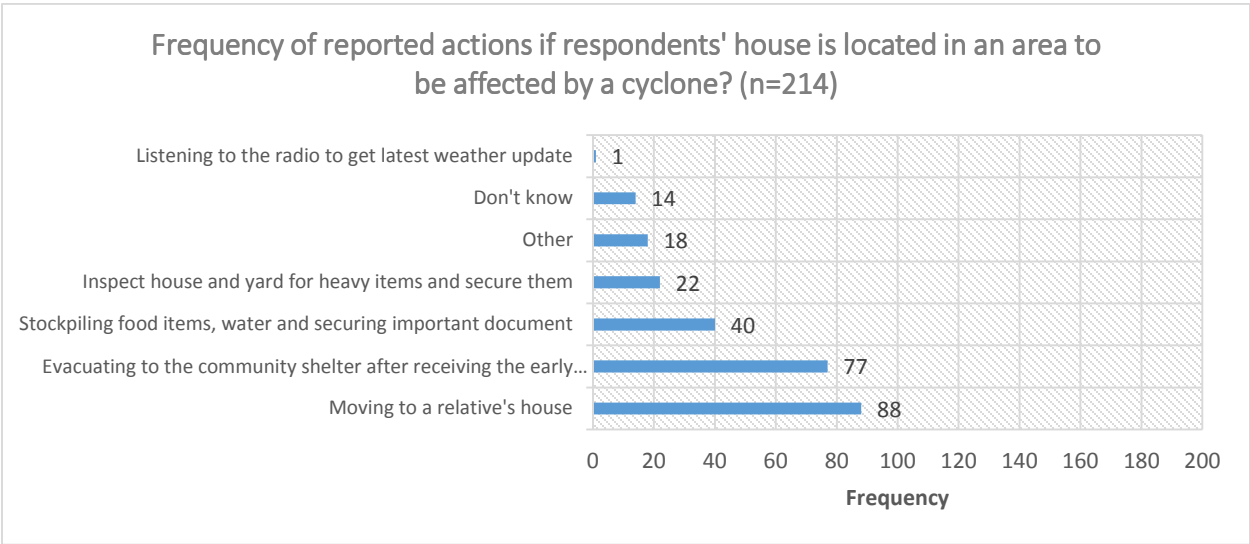
In terms of household preparedness for disasters, respondents were asked about whether families (households) prepare an emergency kit (i.e. grab bag) to take out in case of a disaster, where only 51 of 214 (approximately 24%) have a grab bag (see Figure 28 and 29). More than three-fourths of the sample do not have a grab bag. Of those who responded that they do have a grab bag, many include important papers, valuables, medicines, food and clothes within the bag (see Figure 30).

Figure 28: Households who report preparing an emergency kit/grab bag
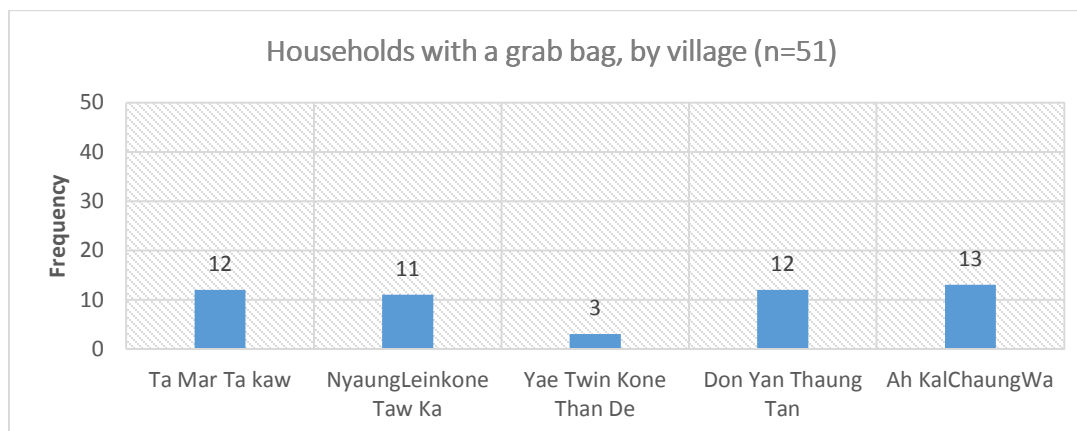
Figure 29: Households with a grab bag by village
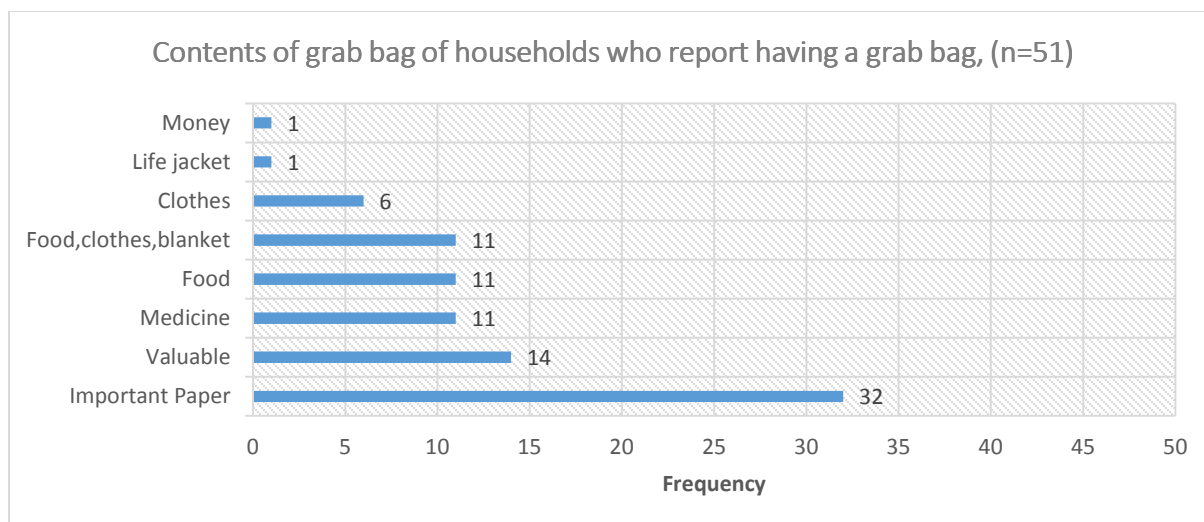
Figure 30: Contents of a grab bag

e. Community preparedness planning and activities
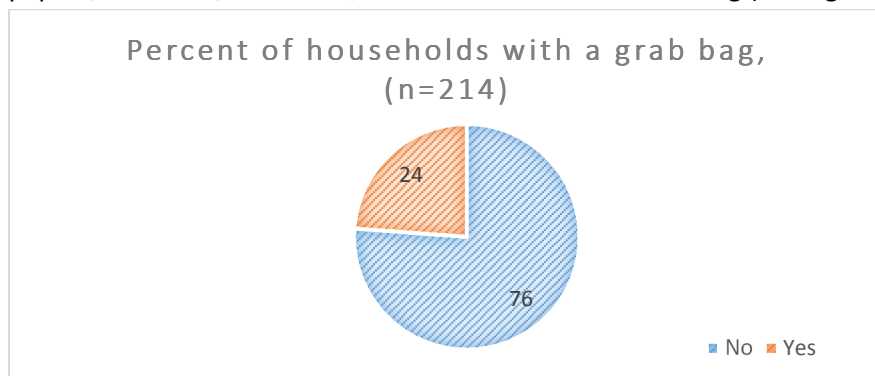
Community preparedness

Approximately, 51% of respondents know of a group or institution in their community that helps prepare the community for disasters. When compared across villages, more than 50% of households sampled within NyaunLeinkone Taw Ka and Ah KalChaungWa know of such an institution (see Figure 31).
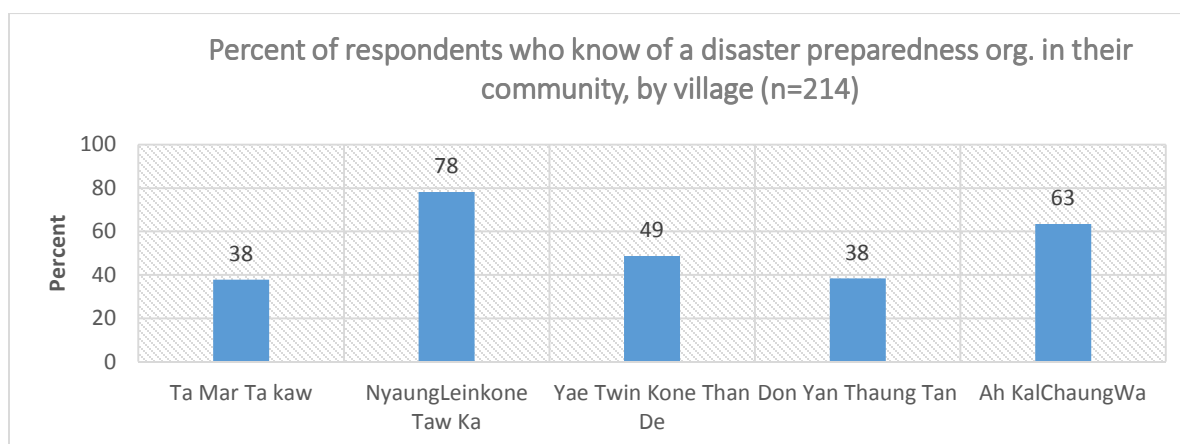
Figure 31: Percent of respondents who know of disaster preparedness organization in their community

Of the 108 respondents who knew of an organization or institution in their community that works to prepare for disasters, almost 70 mentioned the Red Cross, followed by the Fire Brigade, VDMC, VDSC, and others (see Figure 32).
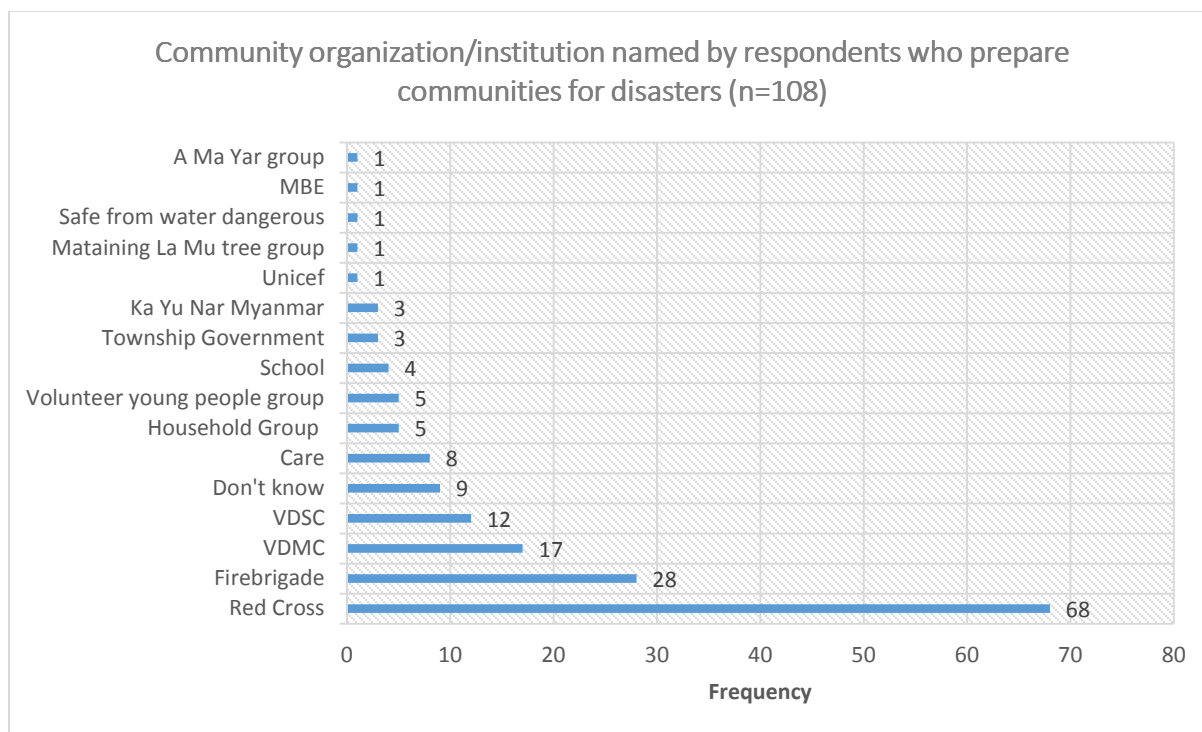
Figure 32: Frequency of community disaster preparedness organization named by respondents

When asked if respondents knew if their community had a village disaster management plan, only 53 of 214 respondents (25%) were able to say that yes they do have one, another 30% said they did not know, and about 45% stated that their village did not have a disaster management plan (see Figure 33). There were slight differences when comparing knowledge of a disaster management plan across villages (see Figure 34).
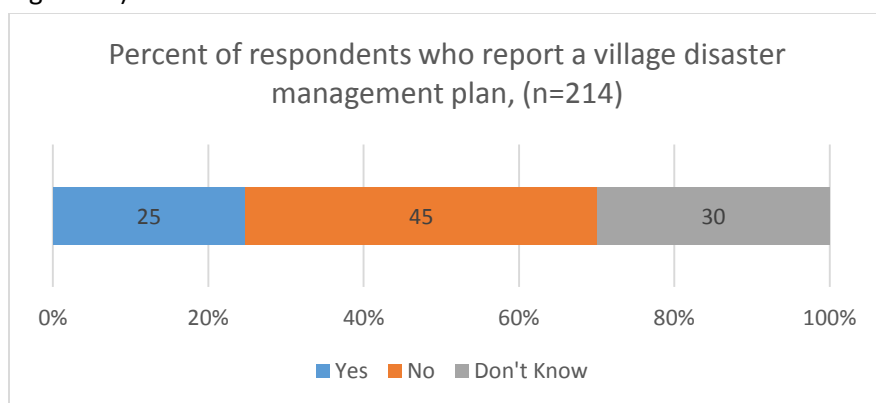
Figure 33: Percent of respondents who report a village disaster management plan
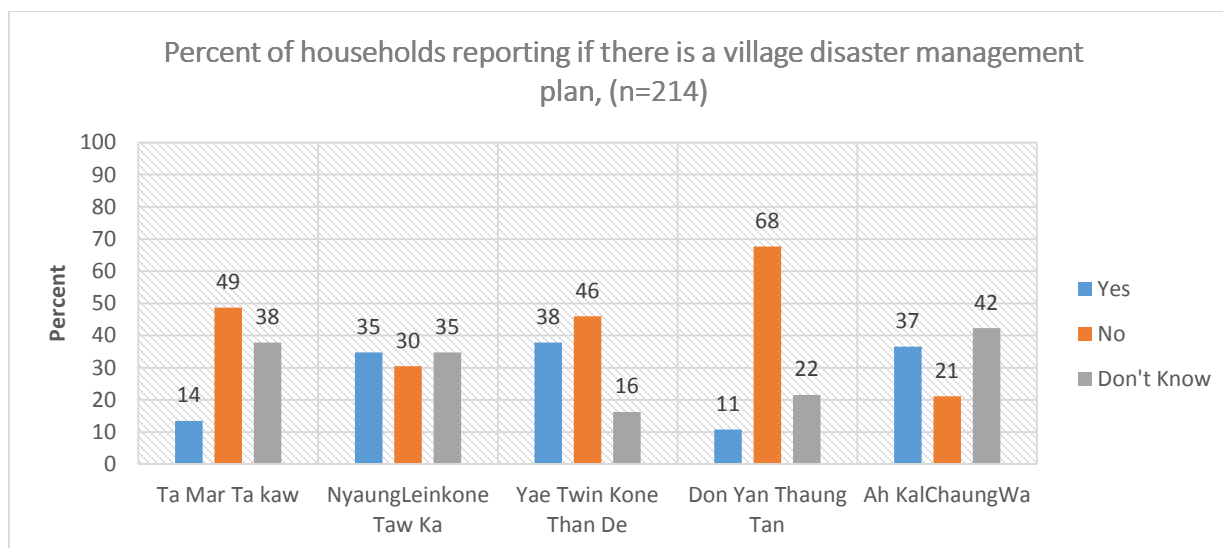
Figure 34: Percent of households reporting a village disaster management plan

Of the total respondents who knew of disaster management plans (n=53), only 18 had participated in the preparation of the plan. The 18 respondents who participated in the preparation of the disaster management plan had various roles, such as VDMC member, community member, VDC member, and others (see Figure 35).
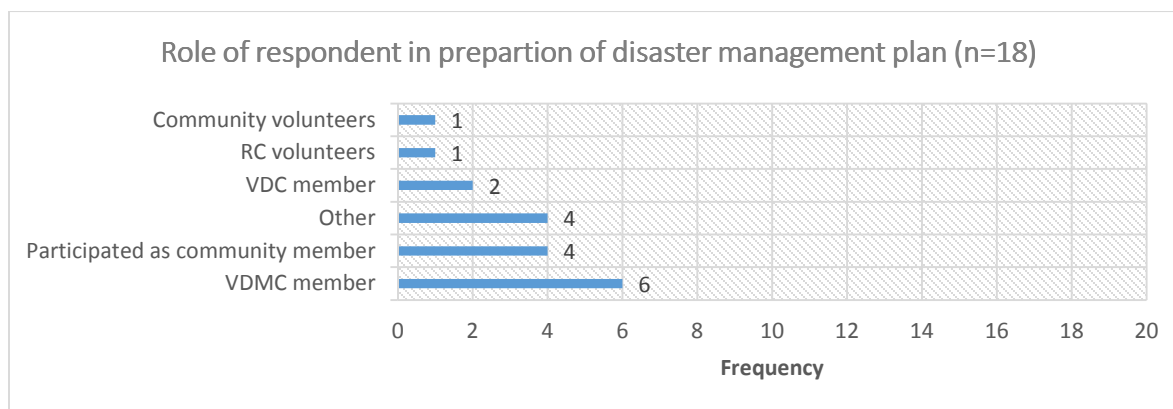
Figure 35: Frequency of respondents' role in preparation of disaster management plan

With regards to a community fund for support to deal with disasters, only 31 of 214 (approximately 15%) of respondents stated that their community has such a fund, with 45 respondents unsure if such a fund exists, and 138 reporting that there is no such fund. There are no major differences when comparing across villages (see Figure 36).
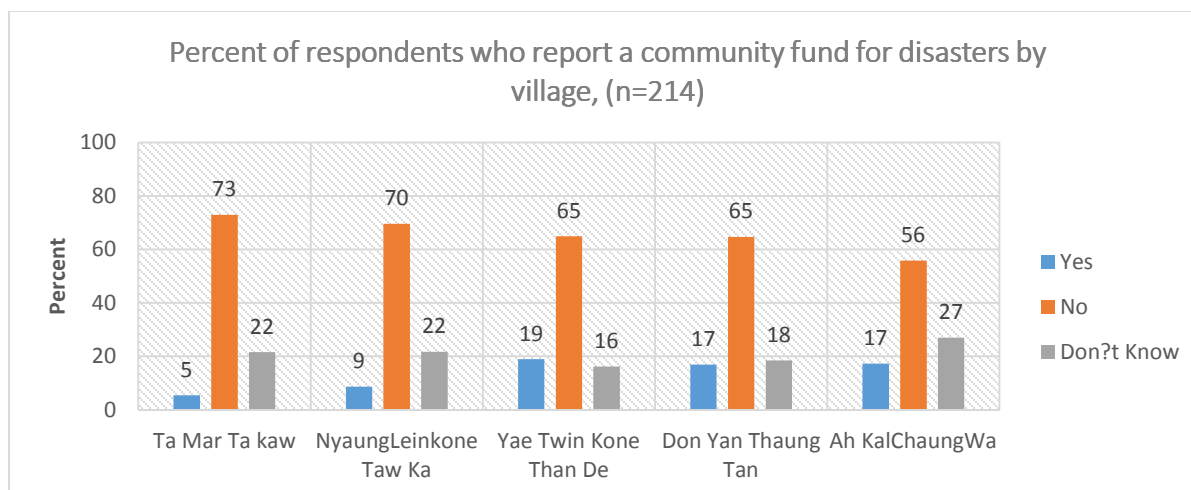
Figure 36: Percent of respondents reporting a community fund for disasters, by village

Of all respondents who know about a community disaster fund (n=31), only 17 reported contributing to the fund in the past six months (from date of survey - March 2014). The most common reported use of the fund is for medical/first aid items, among other less frequently reported items (see Figure 37).
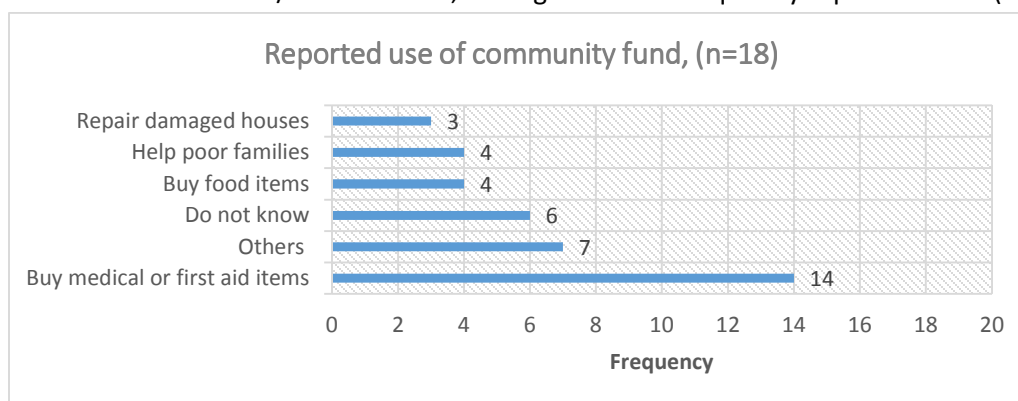
Figure 37: Frequency of reported use of the community fund

Community training and activities

Of the 214 respondents, 160 (approximately 75%) know of someone in their community who can provide first aid. The following figure (Figure 38) displays knowledge of a first aid provider by village.
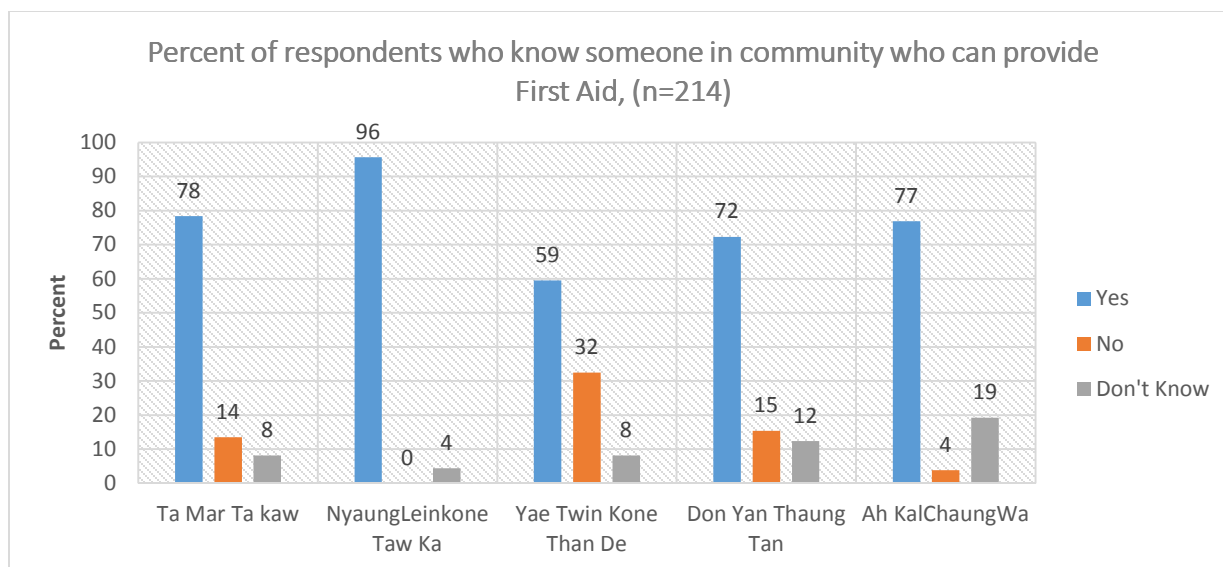
Figure 38: Percent of respondents who know someone in community who can provide first aid

Of 214 respondents, only 84 (39%) know of a first aid kit available in their community, with another 82 (38%) respondents stating there is no first aid kit, while another 48 (22%) do not know of a first aid kit in their community. Figure 39 below depicts this information by village.
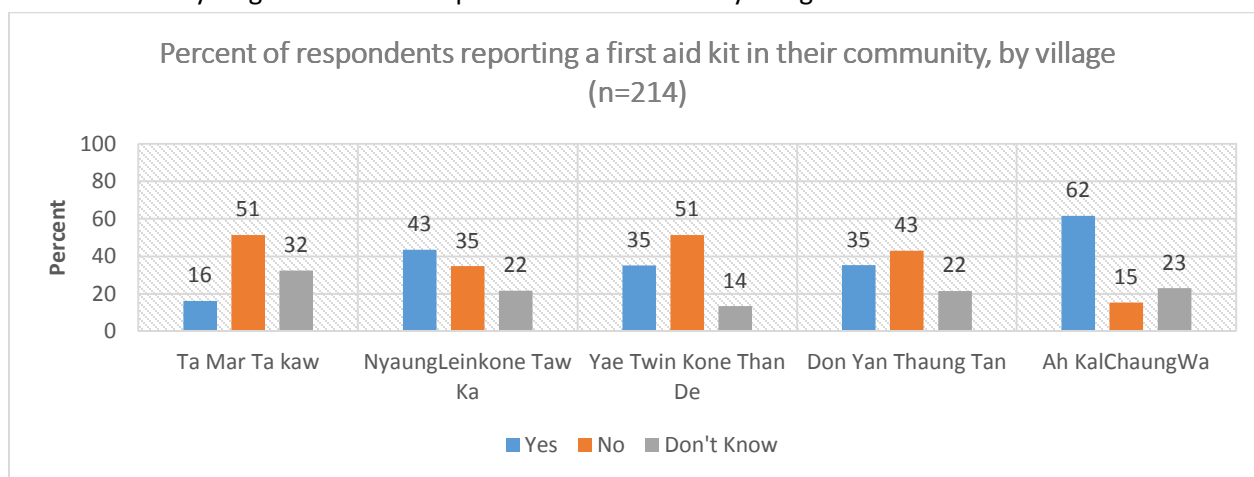
Figure 39: Frequency of first aid kits in the community

Of the 84 respondents who are aware of a first kit in their community, only 13 have ever used it. When asked whether respondents have a first aid kit in their home, only 6 out of 214 stated they have one (see Figure 40). The reported contents of the first aid kit included: bandage, plaster, cotton wool, spirit, betadine, and scissors.
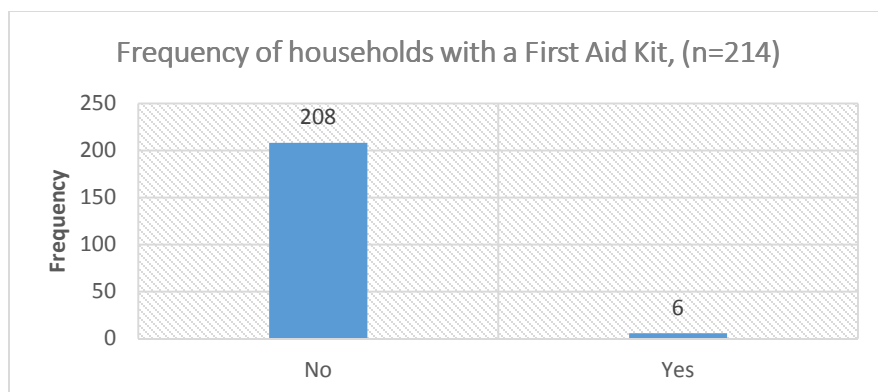
Figure 40: Frequency of households with a first aid kit

When asked about community simulation exercises in preparation for a disaster, only 19 of 214 (9%) respondents stated that they had participated in such an exercise. At least one respondent per selected village reported participating in a simulation exercise (see Figure 41).
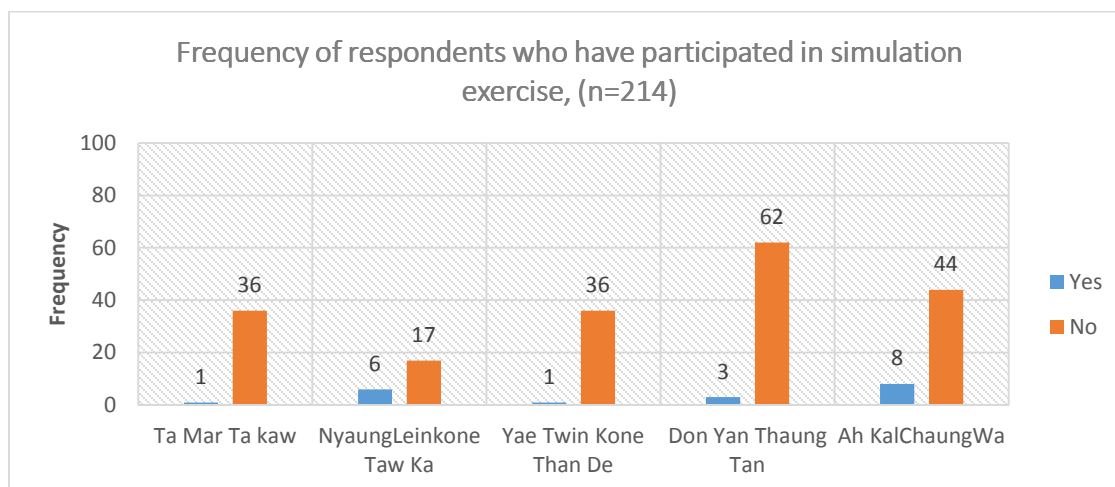
Figure 41: Frequency of respondents who have participated in a simulation

Of those who had participated in a simulation exercise (n=19), 12 had participated more than one year ago, and seven within the past year (see Figure 42).
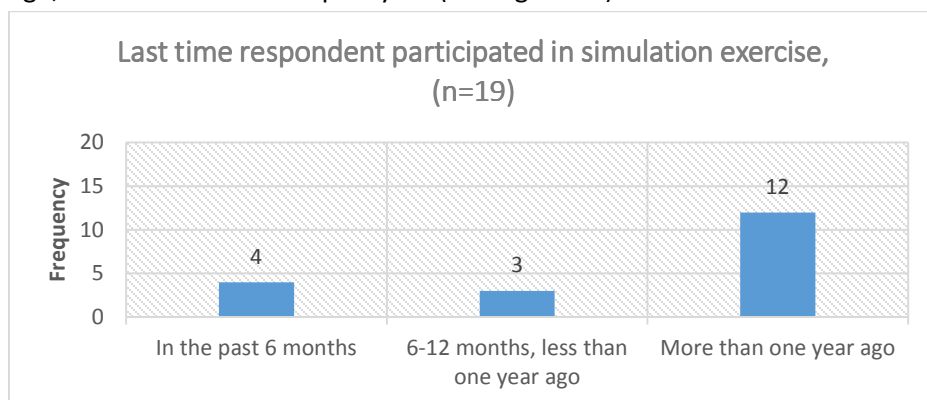
Figure 42: Frequency of last time a respondent participated in a simulation

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The majority of those who participated in a simulation exercise, reported feeling much more confident about their family's safety (see Figure 43).

Did the exercise make the respondent feel more confident about family safety? (n=19)
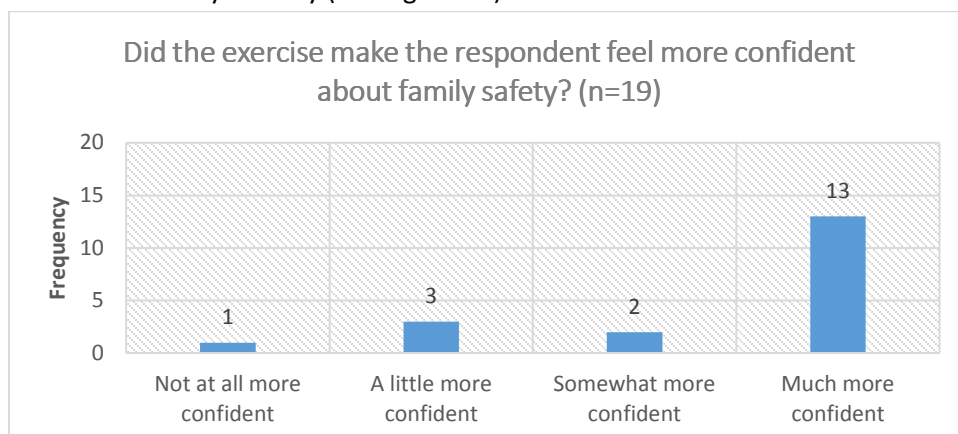
Figure 43: Frequency of confidence level of respondent who participated in simulation

Environmental protection

Based on the current sample (n=214), 132 respondents (about 61%) reported their village having a dyke or levee. All villages are reported to have a dyke/levee to some degree, but it is not clear if all community members were aware of it (see Figure 44).

Percent of respondents who report a dyke/levee in their community, by village (n=214)
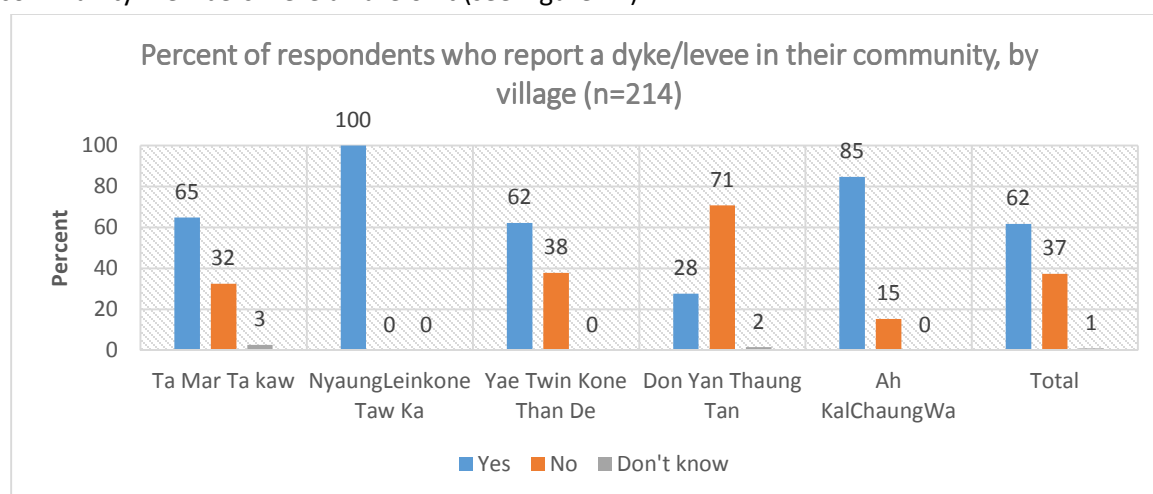
Figure 44: Percent respondents who report a dyke/levee in their community, by village

Of those who reported knowledge of a dyke/levee within their village, many reported the role of dykes to protect houses and crops against floods, protect fields from saline intrusion, protecting crops from sea level rise and high tides (see Figure 45).
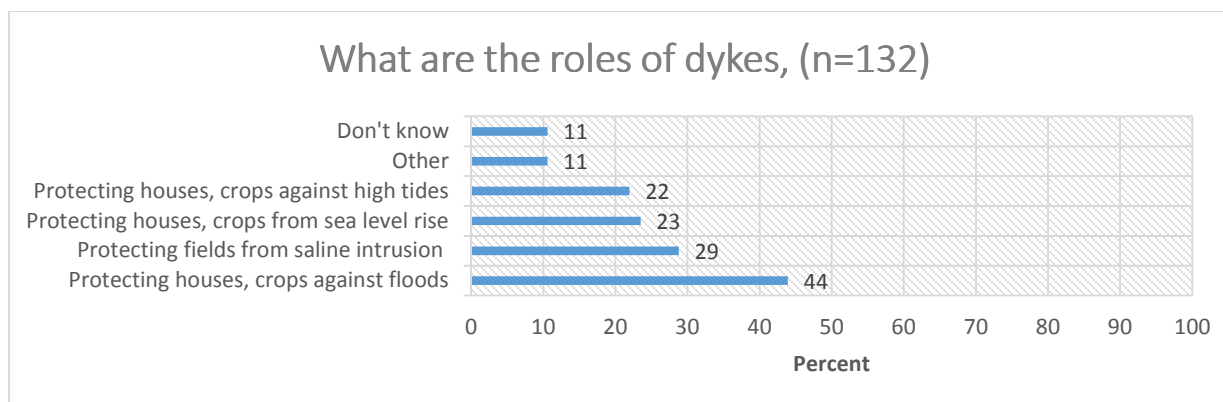
Figure 45: Percent of respondents who reported a dyke/levee in their community describe the role of dykes/levees

Red Cross awareness

When respondents were asked if they have ever talked to anyone from MRCS or affiliated with MRCS (e.g., confirmed by identification of MRCS logo), over half (120, 56%) respondent that they had, with slight variations across villages (see Figure 46).
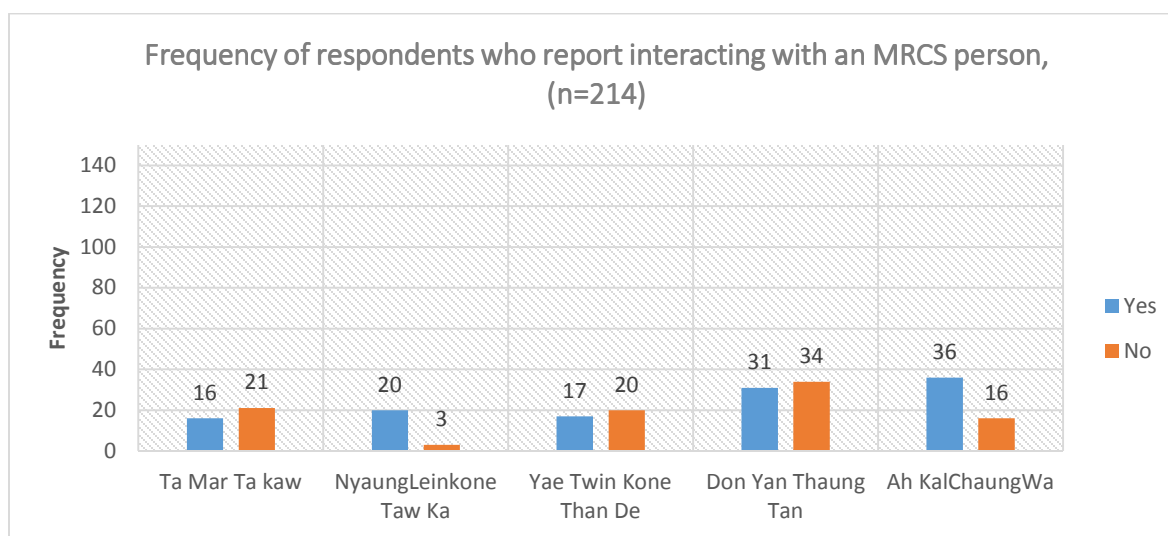
Figure 46: Frequency of respondents talking to someone with MRCS shirt

Of those who had encountered a person with an MRCS shirt (n=120), the majority reported that they were doing health care, followed by training (see Figure 47).
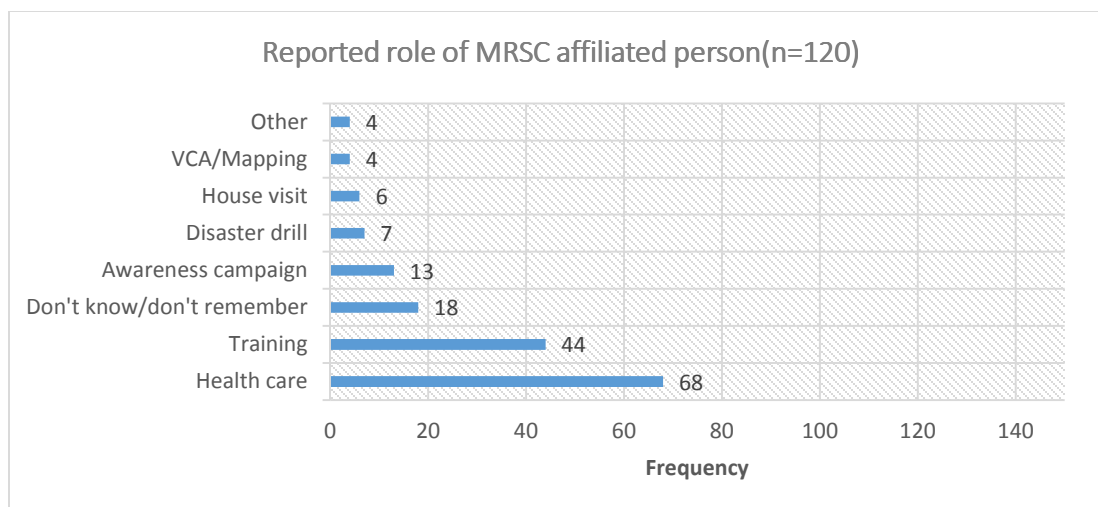
Figure 47: Reported role of MRSC affiliated person

For the most effective communication about natural disasters, the most common method reported was via radio, followed by other less common methods (see Figure 48).
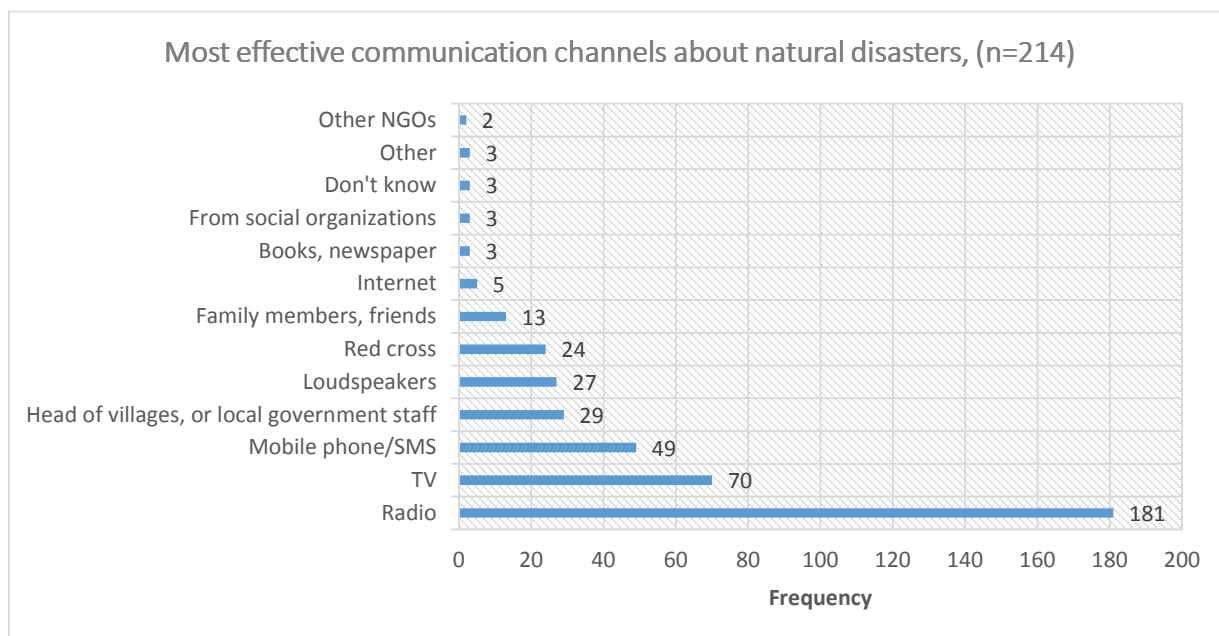
Figure 48: Most effective communication channels about natural disasters

Respondents report source of weather related information from radio as well as television; fewer respondents mentioned heads of villages, mobile phones, loudspeakers, among others (see Figure 49).

Reported sources for weather-related news, (n=214)

Source	Frequency
Newspaper	0
Other	5
Internet	6
Family members, friends	8
Loudspeakers	9
Mobile phone/SMS	23
Head of villages, or local government staff	28
TV	82
Radio	201

Figure 49: Frequency of reported sources for weather related news

4. Conclusions

Overall, there was a high response rate from the sampled population (214 of 230) with females making up two-thirds of the sample. About two-thirds (66%) of the sampled households have family members who fall into the vulnerable categories (22% elderly, 6% person with disability, 2% pregnant women, and 37% children under five). The majority of respondents were between the 25-45 age group with roughly 20% between 46-55 years of age. About half of the respondents were the spouse of the head of household, and a third was the head of household. The majority of respondents are educated, either through monastery school, primary, or middle school; for primary occupation, almost half of the sample rely on casual work (45%) such as fishing and about 24% own their own paddy. About 70% of the households sampled live in a type of bamboo hut with or without a wooden floor.

Knowledge
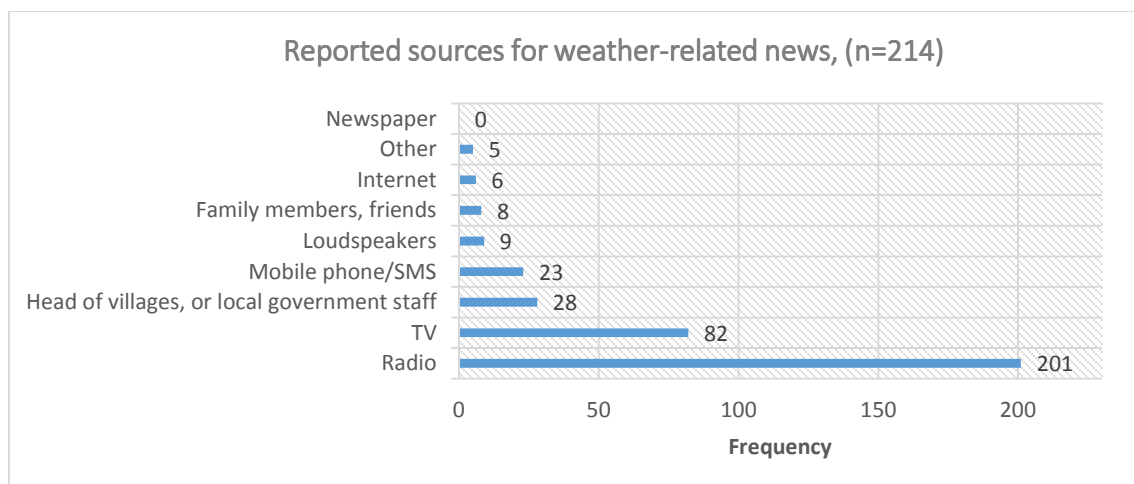The most common disasters reported were cyclones, floods and strong winds, with the elderly and children named as the most vulnerable groups to disasters. Regarding early warning systems, about 71% of respondents report receiving an early warning prior to a disaster; however the percentage of respondents per village who receiving an early warning varies greatly. The majority of respondents receive an early warning via radio (80%) followed by television and village head/leaders.

Attitudes
The majority of sampled households believe that natural disasters are extremely serious in their effects to the respondents and their families. The most frequently mentioned concern about natural disaster was the wasting of money to re-establish their lives, water contamination and loss of life. In preparations for a disaster, only 24% of the sampled households have an emergency grab bag ready, and of those that have one, the most common items include important papers, valuables, medicine, food and clothes.

Practices
Before a natural disaster, the most frequently mentioned action that sampled households reported was that they "did nothing", followed by less frequently reported stockpiling food and storing drinking water. The main reason behind the 113 respondents (of 213) who stated they did nothing was because

they did not know or think a disaster would happen, and lesser number did not know what should be prepared.

During a natural disaster, the most frequently reported action was that the sampled households "did nothing", with less frequently (less than a quarter of the sample) reported strengthening their house and running to a safe place. When posed with the situation if households were in a river flood area, over a quarter of the sample would re-elevate their house, prepare life jackets/boats and evacuate. If households were in an area to be affected by a cyclone, almost half of the respondents would move to a relative's house, and slightly less than half would evacuate to a community shelter. If households were to be affected by an earthquake, about three-fourths of the sample would run out of the building.

There is an overall low awareness of disaster preparedness knowledge as well as following practices. Despite being affected by Cyclone Nargis in 2008, a large number of respondents don't think a disaster would happen or are unaware of proper steps to take to enhance safety and preparedness.

After a natural disaster, over half of the respondents reported that they would fix their house, and less than a quarter would participate in clean-up operations and find food.

Community Disaster Preparedness
Approximately half of the sampled households across all villages know of a community organization/institution that helps their community prepare for a disaster, with the most frequently mentioned organizations being the Red Cross, fire brigade, VDMC, VDSC and others. Only 25% of sampled households were aware of a village disaster management plan, with less than half having played a role in preparing it. Regarding community funds for disasters, only 15% (31 of 214) of sampled households reported that such a fund existed, and of those, only half (17 households) report contributing to it. About 61% (132 of 214) of sampled households reported that their village has a dyke/levee, and of those who report one, the majority stated that the role is to protect houses, crops, and fields against floods and high waters.

In first aid, about 75% of sampled households know of someone who can provide first aid within their community, and 39% of sampled households know of a first aid kit available in their community. Almost all (208 of 214) households sampled do not have a first aid kit in the home.

Very few (19 of 214) of the sampled households have participated in a community simulation exercise in preparation for a disaster, with at least half (12 of 19) of those who participated feeling much more confident about family safety afterwards.

Red Cross awareness and communication
Over half of the sampled households (120 of 214) report speaking to someone with an MRCS shirt, with the majority of that half reporting that the MRCS person was doing health care, and training. This finding reinforces the commonly held belief that the MRCS, as one of the largest humanitarian organizations, has extensive grassroots network and presence on the ground. Also the visibility of MRCS can be attributed to the significant relief and recovery programs implemented by MRCS in the program villages. It is, therefore, timely that through the project, MRCS will be able to spread knowledge and skills on disaster preparedness and further solidify its image in the community.

The most effective means of communication about natural disasters was reported to be via radio by over three-fourths of the sampled households. This was followed by less frequently reported use of television, village leaders/local government and mobile phones/SMS for communication about natural disasters.

5. Recommendations

 Based on the findings of this survey, while a good majority of sampled households have knowledge on what to do before and during a natural disaster (especially floods, cyclones), respondents showed a lack of taking action regarding disaster practices (e.g., not taking any actions to prepare for disaster because a disaster won't happen or don't know what to do. It can be clearly identified that several indicators are lagging in terms of attitudes and practices towards disaster preparedness. Further explorations should be conducted to determine the reasons behind lack of actions regarding attitudes and practices towards disasters. For example, a barrier analysis may help identify some of the barriers that households face in taking action either in preparation for or during a natural disaster.

As a follow up to the baseline survey, MRCS and ARC project team will hold a one-day meeting to discuss and identify how findings and conclusions of baseline survey can further strengthen planned project activities. Some of the activities that are already planned in the project such as inclusion of people with disabilities as being the right approach as these groups have been identified as the most vulnerable by the community members. It is recommended that the project aim to address other vulnerabilities in programming such as targeting elderly individuals and households with children under five, as these vulnerable groups were more prominent in this survey.

Some initial key recommendations for strengthening the project activities are:
- ➢ Further explorations should be conducted to determine the reasons behind lack of actions regarding attitudes and practices towards disasters. For example, use a barrier analysis to study, identify, and subsequently develop activities to address the barriers households face in changing their behaviors (attitudes and practices) in disaster preparedness.
- ➢ It is recommended that the project aim to address other vulnerabilities in programming such as targeting elderly individuals and households with children under five, as these vulnerable groups were more prominent in this survey.
- ➢ Furthermore, the project would benefit from the indicators of the baseline and should aim to set appropriate targets to measure its progress.

Following suggestions re-emphasizing the validity of already planned activities could be identified from the baseline survey:
- • Raising awareness of village disaster preparedness plans should be emphasized and visibility and knowledge is available to most community members.
- • Encouraging broader and wider participation of community members in the preparation of village disaster management plans.

- Supporting the community to ensure first aid kits are available in the community with community volunteers, and other community leaders during and after the project. The community should have a mechanism of sharing information about the location of first aid kits as well as a plan for regular replenishment.
- Strengthening community level initiatives that stockpile food, water instead of such stockpiling at an individual level. The community emergency fund planned in the project could be a supplement to this community level initiative.
- Conducting already planned simulation exercises as the role and benefit of simulation exercises is well-appreciated by community members, and ensuring vulnerable members of the community are included.